GOUT, RHEUMATISM,

AND

RHEUMATIC GOUT.

BY

AUSTIN MELDON

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GOUT, RHEUMATISM,

AND

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A TREATISE

ON

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AND

RHEUMATIC GOUT.

BY

AUSTIN MELDON,

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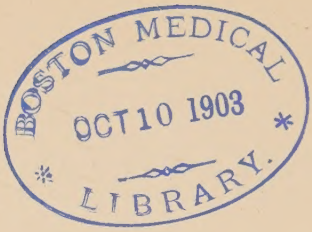

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TO

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This Volume is Dedicated,

IN TOKEN

OF THE ESTEEM, ADMIRATION, AND AFFECTION

OF HIS FORMER PUPIL,

AUSTIN MELDON.

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PREFACE.

A SINCERE desire of adding to the pathology and treatment of Gout and Rheumatism, has induced me to lay my views concerning the nature of these two important diseases before my professional brethren.

From my earliest acquaintance with medicine, I have taken great interest in both these affections, and have carefully noted every case of Rheumatism and Gout I have met with, both in my own hospital and private practice, as well as those I have witnessed in the Continental hospitals, where I had spent much time previous to commencing practice in Dublin. Thus I have collected some five hundred cases, from which I draw my conclusions.

In my introductory chapters, as also in that on the Pathology, I have given what I consider to be the true explanation of the phenomena witnessed in both these diseases.

Later in the work, I have endeavoured to supply proofs of what I believe to be the fact, namely, that every case of both Gout and Rheumatism, wherein the vital organs remain undiseased, is curable, no matter in what stage it is at the time the patient comes under treatment.

It has often been doubted whether uric acid can be eliminated by the skin; but if a large quantity of perspiration be collected from a gouty subject, and, after evaporation, tested, abundance of this acid may be obtained. This experiment I have repeatedly made with success. A detailed account thereof will be found in the chapter on the Treatment of Regular Gout.

In conclusion, I have but to express a hope that those who honour this work with a perusal, will find the interest therein which has induced me to publish my ideas and the cases from which such have been derived.

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In gouty inflammation of the Ear, which is not uncommon, there is usually an alkaline discharge during the attack. If this does not take place, deafness generally remains for some months. The following are two such cases :—

An elderly gentleman in whose family Gout had been frequent for generations, and who had repeatedly suffered from the misplaced variety of the disease, was seized at night with violent pain in the left ear. Leeches, purging, and blistering were freely applied. I saw him on the third day. There was then a thin alkaline discharge from the affected ear. I ordered three draughts of Battley's sedative and tincture of the seeds of colchicum. At my visit next day he was quite free from pain. The following night the other ear became affected. The same draughts were ordered, and again relieved him. No deafness remained in this case.

A gentleman about forty years of age consulted me on account of his ears, from which he had been suffering severely for six days. The left had been first attacked and treated with leeching and blistering. On the fourth day the pain had subsided, but soon after the other ear became affected. The pain was subject to the same exacerbation as in a case of regular Gout. Colchicum and opium soon freed him from pain, but deafness remained. This, however, gradually disappeared without any other treatment, and in three months his hearing was as good as before the attack.

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GOUT.*

INTRODUCTION TO THE HISTORY AND PATHOLOGY.

FROM the earliest records of medicine, gout has been known as a disease which follows in the track of wealth and power. It has ever been the scourge of the rich and the opulent. Often has it stepped in between one who has well-nigh attained the height of his ambition and the happiness which he seems about to enjoy, snatching the cup from his very lips, dashing all his hopes to the ground, and rendering his life devoid of comfort and replete with suffering.

Many, when in health, look upon gout as a disease more to be coveted than to be avoided, one which in itself is a mark of honourable distinction. But there are

* Syn. Ποδαγρα, χειραγρα, γοναγρα (in Greek, according to whether the part affected was the foot, hand, or knee), Goutte (in French), Gicht (in German), Gotta (in Italian), Gota (in Spanish).

few, when writhing under this agonizing malady, who do not regret the youthful errors and self-indulgence which have contributed in no small degree to bring them such an unwelcome visitor. Some endeavour to find consolation in the idea that gout not only protects them from other diseases, but actually prolongs life. This, however, is an error, which a glance at the causes of mortality in the United Kingdom will soon dispel. About six thousand persons have died directly from gout within the last twenty years, and ten times that number would not include all those whose death is due indirectly to the affection. Few, in fact, neglect gout in its earliest stages who do not perish sooner or later, either directly from the disease, or from some other affection which owes its mortal character to the gouty poison. It may, therefore, be regarded as one of the most important diseases to which human nature is subject.

It is now more than two thousand years since Hippocrates first described gout, and since his time every medical writer has devoted much space to its consideration. Many, too, have been the hypotheses concerning its nature; and yet, it must be confessed that the progress made in the course of those two thousand

years has been but very slight. Hippocrates believed the disease to be due to the retention in the blood of some natural humour which ought to have been eliminated. He consequently recommended free purgation, and thought it curable if treated by some "skilful physician" before concretions had formed. At the present time, it is the opinion of most medical men that the disease is caused by the retention in the blood of uric acid or urate of soda, and all recent treatment has for its object the elimination thereof through some of the natural channels, by purging, by diaphoresis, or by diuresis. Thus it may be seen that the advance made in the course of so many centuries has been confined to the discovery of the particular matter retained in the blood of the gouty. How far this is really the cause of gout, I hope hereafter to show.

It may be thought that, although the pathology of the disease has progressed so little, we are much in advance of our forefathers in regard to treatment. Yet this is not so certain. All the most eminent medical writers regard gout as a curable disease in its earlier stages; and there is much reason to suppose that the ancients were acquainted with colchicum, or some kindred plant. Of this, however, more anon. At

present my purpose is briefly to review the history of the disease and the various theories concerning its nature, which have at different times found favour with the medical world.

All the ancients followed Hippocrates and Galen in their humoral theory, differing only in the particular humour which was supposed to be retained; some looking on it as phlegm, others as bile, others as semen. In short, advocates were found for every natural secretion or constituent of the body. In reading these ancient works, one is forcibly struck with the intimate knowledge displayed concerning the disease, and with the vivid descriptions of its attacks, showing beyond doubt that it was even then a common malady. Demetrius Pepagomenos, who wrote in the sixth century, believed that it was caused by imperfect digestion, deficient excretion, retention of natural secretion, over-indulgence in venera and the like, and he recommended the use of venesection in the earlier stages of the disorder, followed by emetics and purging, thereby eliminating the undue accumulation.

In the seventeenth century we received some valuable writings from the hand of one who was himself a martyr to the disease. It is to be regretted that the severity of

the attacks prevented this able physician leaving much which he desired to record. Sydenham, who was born in 1624, has left us such a lucid account of the disease, that his words have found place in most works on gout.

Many of his hypothetical conclusions, too, have been verified. Though, from want of a better explanation, he adopted the humoral theory, his writings are full of doubts and suggestions as to its nature. In one of his letters, after he had finished his writings on this subject, he says,—"By applying my mind to the utmost, and by bringing all my power of thought on the subject, I brought on such a fit of gout as I had never before suffered from, so that the fact itself warned me to lay aside, even against my will, such lucubrations;" adding, "whenever I return to my work, my gout returns to me."

Cullen, who was born in the early part of the eighteenth century, was the first who openly avowed his disbelief in the humoral theory. He regarded gout as an affection entirely of the nervous system, but as he denied the presence of any *materies morbi* in the blood, he had few followers. It was difficult to explain all the phenomena of the disease in this manner. Cullen's idea soon therefore passed into oblivion, to be

replaced by the reappearance of the ancient humoral doctrine. This lasted until Dr. Garrod's experiments proved the existence of uric acid in the blood of the gouty, which substance had been previously, in 1797, detected by Dr. Wollaston in the joints.

The late Dr. Gairdner believed gout to be due to venous congestion, but, with the exception of a few of his followers, both here and in Germany, most medical men have adopted the uric acid theory.

Dr. Garrod, the originator of the latter explanation, believes that urea and uric acid are separately eliminated by the kidneys, and that one of these may be excreted while the organs have lost the power of eliminating the other. Gout he considers partly due to the temporary or permanent loss of the uric-acid-excreting functions of the kidneys. The premonitory symptoms, and those which constitute paroxysms, he regards as being produced by an excess of uric acid in the blood, and an effort made by nature to expel the *materies morbi.* He believes that uric acid is always present, as urate of soda, in abnormal quantities in the blood, prior to and during an attack of gout. Dr. Garrod, however, admits that it may exist in large quantities without producing any inflammatory symptoms. He states that true gouty

inflammations are always accompanied by a deposit of urate of soda, and that inflammation tends to destroy this salt, not only in the part affected, but also in the blood generally.

Dr. Garrod's opinions have gained almost universal assent. True, many medical men do not believe with him, that the kidneys are the organs whose functional impairment causes this undue accumulation, but refer it to derangement of the stomach, liver, or skin. Yet it seems all but an acknowledged fact that the principle of the doctrine is correct.

Nevertheless, I have not the slightest doubt that every practical physician will agree with me, that the presence of this acid in the blood cannot be the sole cause of this distressing malady. It would be a satisfactory explanation, were it not that there are many persons whose blood is loaded with uric acid, and who are in perfect health. In Ireland gout is one of the rarest affections met with in hospital practice, yet I have repeatedly found the blood of otherwise healthy men, lying in our accident ward, loaded with urates. For some years past my own blood has been in this condition, although I have never had the least symptom of the disease. Dr. Gairdner found urates in the blood

of a boy four years of age, in whose family gout had never been known. It is therefore necessary to find another link to complete the chain. The material for this, I think, is supplied by Cullen's theory.

The predisposing cause of gout is undoubtedly the presence in the blood of uric acid and soda in some form. Nerve force, I believe, when in a healthy condition, preserves these two in fluid form, separately, in a state in which they may be eliminated by the kidneys, skin, or bowels. As soon, however, as this nervous influence is removed or lessened, these two unite. Thus, when blood or serum is taken from gouty patients, the uric acid and soda, no longer retained separate by the nerve force, unite and crystallize as urate of soda. In gout this union usually takes place in the tissues most removed from the brain and centre of circulation. Irritation and inflammation excite the nervous system, and the disease for the time is arrested. Often, however, depressing reaction produces a second attack, a third, or even a fourth, and then nature gradually alters or removes that which has been deposited, till soon all traces of the fit have passed away.

The time that an attack generally commences is at night, when both nerve force and circulation are

weakest; the part, too, most usually attacked—the great toe—favours my theory, and I need scarcely mention the numerous instances recorded where gout has been brought on by great nervous depression. Columbus never suffered from the disease until disappointment, and the ingratitude that he met with, depressed his whole nervous system. Hundreds of similar cases are familiar to all. Politicians and speculators are particularly liable to gout.

The action of colchicum, I believe, furnishes me with one more proof. By an experiment that may be repeated by any one at will, I have satisfied myself that it is a nervous stimulant. Repeatedly have I, whilst fasting, and in perfect health, taken doses of from ten to fifteen minims of tincture of the seeds of colchicum. Its first effect was to produce nausea, and then increased action of all the organs; the skin became moist, the secretion of the kidneys and liver was increased, and the mental faculties were invigorated. On some occasions I have experienced severe palpitation consequent on its use.

All these results can only be produced by a nervous stimulant. This is the only way, too, in which its apparent magical influence on a seizure of gout can be

accounted for. It also explains the injury to the heart and other organs which may be produced by its too frequent use.

Division.—All the varieties of gout described by other authors I regard as but stages or degrees of the disease.

Premonitory symptoms usually occur while the so-called uric-acid diathesis is being developed. At this period, dyspepsia, flatulency, hiccup, constipation, "nervous" pains, and the like, are experienced.

When a certain amount of the *materies morbi* has accumulated in the blood, and when the nervous depression is but transitory, pains more or less severe are experienced in different parts of the body. Cramps, palpitations, severe headaches, and such-like affections also mark this variety, which is known as Anomalous or Irregular gout. If when the nervous depression is severe, while but little uric acid and soda is retained in the blood, a joint becomes affected, the inflammation is at first subacute, but soon becomes chronic. This is what is usually termed Atonic, or Poor Man's gout. If both the predisposing and exciting cause are at their maximum severity, that is to say, if there be a still further increase of uric acid and soda in the blood, and

if at the same time there be much nervous depression, some important organ may become engaged, or the disease may be developed in a joint. The former is termed Misplaced, and the latter, Regular or Acute gout. Should, however, the inflammation suddenly leave a joint and attack some organ, it is called Retrocedent gout.

If the disease remain lurking about a joint for some time after an attack of regular gout, or if there be no regular paroxysms but the disease always present, it is known by some authors as Chronic gout.

Thus it may be seen that all these varieties are but, as it were, stages of the disease.

CHAPTER II.

GOUT IN ITS MILDEST FORMS.

PREMONITORY SYMPTOMS—ANOMALOUS OR IRREGULAR GOUT.

SOMETIMES gout attacks its victims when apparently in the enjoyment of perfect health. In such cases the premonitory symptoms are so trivial that they have not attracted the patient's attention. More usually, however, the affection is preceded by more or less well-marked premonitions of the disease.

Dyspepsia is the most usual forerunner of gout. Sometimes it is slight, at other times it is severe and constant. As the gouty diathesis becomes developed, persons who have been long accustomed to indulge the appetite in everything which fancy suggested, find that they can no longer do so with impunity. Many things now disagree with them, produce indigestion, turn acid, or, as it is popularly termed, "sour," on the

stomach, and they are obliged to use a certain degree of caution as to what they either eat or drink.

Hiccup is often complained of, and such patients frequently become drowsy, after even light meals.

The temper, too, has changed. Trifling annoyances affect them much more than formerly, and with their dearest friends and relations such persons are often peevish and irritable.

In most cases the bowels, which were wont to act regularly once a day, are now often two or three days without a motion, and even then only with the aid of medicine. This causes flatulency; heartburn is not unusual, and many patients suffer from hemorrhoids.

The urine, which perhaps has been for years high-coloured, and loaded with a brickdust sediment, has of late become much more clear and pale. The quantity, too, is often much diminished. Irritability of the bladder frequently causes the patient much suffering, and often sexual desires are increased.

Fatigue, after but slight exercise, is shown by severe pains in the muscles, somewhat resembling in character those which are known in youth as growing pains.

A dull pain, close to the vertebræ in the sacral or dorsal region, is of frequent occurrence.

At night, when the body is warm in bed, severe itching, characterizing prurigo, is not unusual, and the patient often suffers much from nettle-rash.

Pains, often severe, are experienced in the head, abdomen, or chest, and such persons are frequently affected with violent palpitations.

Such are the premonitory symptoms of gout. Sometimes the disease is here checked by resolution, and a life of suffering thus avoided. The food is changed, more exercise is taken, stimulants are indulged in to a less extent, and soon the patient finds himself restored to health.

More usually, however, these warnings are neglected, and the patient soon finds his condition grow worse. The skin now becomes unnaturally dry, his sleep is disturbed and restless, and dyspepsia becomes so bad that almost everything he eats or drinks disagrees with him.

In this state he increases his stimulants, and by their use temporarily relieves those urgent symptoms; but often, when their effect has passed away, the reaction brings with it a fit of regular gout. In other cases, however, no such crisis occurs, but all the symptoms increase in severity, until one or other becomes so much

aggravated as to assume a character which has received the name of irregular or anomalous gout. Hemicrania, severe pains in the eyeballs, bronchitis, intense cramp in the stomach, inflammation of the tonsils, lumbago, and pains in the muscles of the leg so severe as to prevent the patient from walking, are the forms it may assume. Hypochondriasis, too, is very frequent. Dyspepsia often disappears as these other parts become affected.

One of my patients, a man of nearly seventy years of age, has suffered in this way from agonizing pain in the head, which usually lasts for three or four days. His attacks are nearly always occasioned by professional or domestic annoyances, and commence with dyspepsia and pain in the stomach ; these subside as the pain affects the head. Occasionally an attack of bronchitis or lumbago succeeds, or even precedes the head affection.

Another patient, an elderly lady, had suffered for years, at intervals, from a most acute headache. As she had no idea of being the subject of gout, it was attributed entirely to derangement of the stomach and bowels. My first acquaintance with her was on being summoned to her bedside, in the middle of the night,

when I found her suffering from an intense pain in the stomach, accompanied with a sense of choking. She had taken some medicine a few hours previously to relieve her head, and to procure sleep; she now feared she had been poisoned. I prescribed suitable medicine, and ordered her feet to be immediately placed in hot water and mustard, and before morning the great toe of the right foot was painful, red, and inflamed. The fit was, however, mild, and in four days she was perfectly recovered. Subsequently she had several attacks of regular gout.

Should the patient become affected with any inflammatory affection while suffering from anomalous gout, the attack is much modified by the gouty poison. I once attended a patient suffering from ophthalmia, and as it did not yield to ordinary remedies, I questioned him more closely, and discovered that he was frequently affected with severe pains, which alternated between the head and stomach. I immediately ordered him a dose of colchicum, which completely cured the eye affection.

I was on another occasion asked to see an old gentleman who was confined for many weeks with bronchitis, which had resisted all remedies, and appeared to be settled upon him for life. I soon learned from him

that he was very gouty. I accordingly ordered him a mixture containing colchicum, and in three days he was perfectly well.

A butler applied at the hospital dispensary, complaining of intense pain in both eyeballs. He was forty-five years of age, and had had two fits of regular gout. About three months previously the eyes had been similarly affected for nearly three weeks. I prescribed a mixture containing colchicum, after the third dose of which the pain subsided.

I could record many such cases from my note-book, but these few will sufficiently exemplify this variety of gout.

Prognosis.—The prognosis in anomalous gout is always favourable. If we can prevail on the patient to follow directions as to diet and exercise, the disease is easily cured.

Treatment of Premonitory Symptoms.—In cases where the symptoms above described as premonitory of gout occur, active treatment will quickly restore the patient to health. This should commence with stimulating the liver, and freeing the bowels. For this purpose I have been accustomed to order, at night, a couple of pills composed of five grains of blue and five of compound rhubarb pill, followed in the morning by a tumbler-full

of Püllna water, heated by the addition of warm water, an ordinary seidlitz powder, or some citrate of magnesia. In some cases a much smaller dose of blue pill will answer, or taraxacum may be substituted.

The next most important portion of the treatment consists in regulating the amount of exercise, which should be but moderate in amount. Yet it should be continued with perseverance. In cases where a very sedentary life has been led, I fix the amount as two hours' walking exercise daily. This can easily be taken, divided into two or even four walks, of an hour or half an hour each. In another portion of this work, I shall give striking examples where this alone removed all traces, not only of premonitory symptoms, but of actual gout.

Next to exercise, the diet should be marked out. Ale, porter, port, sherry, and Madeira, should be strictly forbidden. Any other stimulants should be limited to such quantity as is absolutely required by the state of the patient's strength. The diet should consist of plainly-cooked, easily-digested animal food, and well-dressed vegetables, together with farinaceous articles. More particular directions will be found in the chapter on prevention of gout.

The state of the skin is of the utmost importance in this condition. Constant ablutions of the entire body in a warm bath are of the greatest use, and when it can be borne, a cold sponge-bath each morning will be of much service.

The kidneys should likewise be regulated with mild diuretics.

Treatment of Anomalous or Irregular Gout.—Though, when treating merely premonitory symptoms, little more is needed than the foregoing, if the case be one of anomalous or irregular gout, besides attention to the diet, exercise, and aiding the organs of elimination in their functions, we must also rouse and strengthen the nervous system. For this purpose a little colchicum may be prescribed in an alkaline mixture. In such cases I believe that the drug acts better in small doses. A few days of this treatment should be succeeded by the administration of some nerve tonic. Quinine, which I look upon as such, answers well, but any of the others hereinafter mentioned may be substituted. From bromide of potassium I have had frequently the best results. My chief reliance, however, is placed on sulphate of quinine, which I prescribe in three-grain doses, and continue for a considerable time. Taraxacum and

sarsaparilla I likewise use as general tonics. The former also keeps the liver in its proper condition, by occasionally stimulating it to action.

Opiates are often required. I believe it is better to use a small quantity of solution of muriate of morphia, injected subcutaneously, than to administer the opium by the mouth. If, however, the latter plan is preferred, the most desirable preparations are Battley's sedative, or solution of the muriate of morphia. The former, combined with chlorodyne, is of much service. The same restrictions as to diet and stimulants must be observed as in the treatment of the premonitory symptoms. There is one thing, however, that I wish to lay particular stress on,—namely, the quantity of food taken at one repast. Nothing tends more to impair the health than, after a long fast, taking a full meal. After much observation, both in the United Kingdom and on the Continent, I am convinced that people who addict themselves to this practice are never long-lived. I always insist that my patients should never, except at night, be longer than four hours fasting. I attribute much of the success I have had in the treatment of gout to my adoption of this means.

As to stimulants, they are decidedly injurious if not

required, but are beneficial if called for by great debility. I never, however, met with a case of gout in a person under forty years of age in which even a single glass of sherry, daily, was not injurious. To these two latter subjects I shall, however, recur hereafter.

Lemon-juice, or vinegar, ought to be used at dinner. Tea and coffee I believe to be beneficial.

CHAPTER III.

GOUT IN ITS SEVERER FORMS.

ATONIC AND MISPLACED GOUT.

THE Atonic species of the disease is that which is popularly known as "Poor Man's Gout." In this so-called variety the *materies morbi* exists but in small quantity, but there is much nervous depression. It is, in my opinion, the most common species of gout seen in hospital practice in Ireland, France, and Germany.

The affection assumes different forms. In one, perhaps that which is most usual, a patient who has undergone some severe physical or mental exertion, after a long period of repose, finds the muscles of the leg so painful that he is almost unable to move. Believing this to be but the ordinary result of his unusual labour, he retires to rest, hoping that sleep will remove all traces thereof. This, however, he soon finds to be an error. The pain, which has much increased, and has become settled in one part, makes him so restless that

he soon finds repose to be impossible. He passes a comfortless night, sleeping but little, and when dozing, is much disturbed by unpleasant dreams. In the morning the affected part may be slightly swollen. It is not, however, red, nor is the pain much increased by pressure. For many days the patient remains feverish, and unable to move the affected limb. The skin, too, is dry, the urine scanty, the bowels constipated, and the patient much inclined to despond. In this state he continues for many days, or even weeks, and then the affection subsides, leaving, however, its traces, in the shape of pain, stiffness, and swelling. These latter are often so severe for months that the patient walks with difficulty, and frequently is obliged to use a stick. A second attack sometimes occurs before all vestiges of the first have disappeared. A blow, sprain, or other accident is not unusually the exciting cause of this form of gout. The ankle or hand is the part most frequently affected.

In other cases the disease occurs at night, in the great toe, resembling at first a fit of regular gout. Soon, however, it assumes a sub-acute form, which gradually becomes chronic.

Hypochondriasis in patients who are suffering from

atonic gout is so common, as to be regarded by some as a characteristic feature of the disease. I have frequently met cases in which the patient's life was rendered miserable by a conviction that some dreadful calamity was about to befall him. This state is often much increased by the terrible dreams by which it is invariably accompanied. In one case, which it was my lot to witness, this condition reached to such a degree that the gentleman's friends sought to place him in a lunatic asylum. He was a man forty years of age, a shoemaker by trade, and was much addicted to drinking large quantities of ale and porter. I had attended him frequently for atonic gout, from which he was now seldom free, it having attacked his toes, ankle, knees, hands, and wrists. All my arguments failed to induce him to abandon his intemperate habits. I could not even prevail on him to substitute spirits for his usual malt drink. I discovered one day that he had a great partiality for cider. At my earnest request he confined his stimulants entirely to this cooling beverage, of which I was afterwards informed he drank enormous quantities. In twelve months he was not only free from gout, but also from all traces of the hypochondriasis which had so alarmed his friends. He has

not, moreover since suffered from a relapse of either complaint.

Prognosis of Atonic or Poor Man's Gout.—This variety of the disease weakens a patient much more than the acute form. It is, however, more easily cured. I have never yet met with a case of atonic gout which did not readily yield to treatment.

In the form known as Misplaced Gout, the amount of uric acid and soda in the blood is usually large, and the nervous depression great. The eye is the organ most usually attacked. I have seen several cases of gouty iritis.

A gentleman, sixty-three years of age, was seized at night with violent pain in the right eye. I saw him an hour afterwards. The organ presented all the characters of acute iritis. He was treated for gout, and recovered without any injury to the sight.

I once admitted a man, aged fifty-eight years, into Jervis Street Hospital, suffering from severe iritis. He had been attacked at night, just three weeks previously. During the interval he had suffered much, and had submitted to every variety of treatment without the slightest benefit. On his admission he was suffering from intense pain, and at the suggestion of my friend

and colleague, Dr. Corley, I immediately ordered him large doses of colchicum. After the second dose the pain subsided, and in two days all inflammatory symptoms had ceased. He has since suffered from regular gout.

Bronchitis is of very frequent occurrence in this variety of gout.

A gentleman, thirty-six years of age, consulted me on account of frequent attacks of bronchitis, which usually confined him to bed for several weeks together. When I saw him he had all the symptoms which invariably precede an attack. From the nature of these, as well as from the family history, I suspected its origin to be due to gout. I treated him as if he was about to suffer from this latter affection. This treatment not only arrested the threatened attack, but by a repetition thereof, whenever the premonitory symptoms appeared, he has been entirely delivered from an affection which had injured him considerably in his profession.*

* For additional examples illustrating the connection between gout and bronchitis, the reader is referred to the valuable monograph of Dr. Headlam Greenhow, entitled "Chronic Bronchitis, especially in connection with Gout, Emphysema, and Disease of the Heart." Longman, Green, & Co., London, 1869.

At times gouty inflammation attacks the pleura, causing considerable suffering.

A short time ago, a case of this kind occurred in the practice of my friend Dr. Martindale Ward, of Twickenham. The subject was a man about fifty years of age, who had experienced frequent attacks of regular gout. At the time of his present seizure, he was suffering from the effects of an extra capsular fracture of the femur. A few days after the accident the knee was seized with gouty inflammation. This was speedily checked by colchicum. Ten days later, he was attacked towards morning with excruciating pain in the right side. After some hours of intense suffering this abated, but as evening approached, it again increased, until it became agonizing. On the second day, Dr. Ward put an end to the attack with colchicum and opium.

If the heart be affected by misplaced gout, the symptoms it produces are those of great debility and constrictive pain in the precordium, accompanied by severe palpitation. I have not, however, met with any case of the kind in practice.

The head is frequently the seat of this variety of the disease. It is then characterized by intense pain in

the head, occasionally accompanied by vomiting, and followed by partial stupor.

The stomach, too, may be the situation of attack in misplaced gout; it is then marked by severe cramp and vomiting. Occasionally, as it passes off, a severe form of diarrhœa seems to eliminate the poison. It is then often considered to be severe indigestion.

Treatment of Atonic Gout.—The treatment of this form of gout must be conducted in accordance with the principles laid down in the chapter on the treatment of regular gout. These may be briefly summed up as attention to the diet of the patient, regulation of the bowels, kidneys, and skin, and the administration of alkalies and nerve tonics. The amount of exercise also requires special mention; it should be in accordance with the patient's strength, but never so much as to fatigue him. Horse and carriage exercise is frequently more advisable than much walking. Change of air and scene are also of much service. I have known several cases where a tour in Connemara or Wales has completely cured a patient.

Carbonate and citrate of lithia I would recommend as by far the best alkalies to employ in this species of the disease. In young subjects I would confine the

drink taken at dinner entirely to home-made lemonade, almost devoid of sugar. Smoking is extremely injurious, and should be at once discontinued if indulged in to any extent. Coffee I believe to be of use in this form of the disease. Light reading and frequenting the theatres is often beneficial. The mind should always be withdrawn from business matters. Tincture of iodine is an excellent local application in the chronic stage of this variety of gout.

Treatment of Misplaced Gout.—The treatment in this form must necessarily be active. No variety of gout yields more readily to remedies, if speedily employed, but no species of the disease is more destructive if valuable time be lost. Should the eye be the part attacked the bowels must be at once freed, and repeated doses of colchicum administered. A few leeches may also be applied in the neighbourhood of the affected organ, and if the pain be intense, a blister formed rapidly on the temple or behind the ear will be most useful. Turpentine will often afford relief, if from any cause colchicum be not advisable. Opium is also of much service in gouty iritis. Calomel may be used as an adjunct.

Small doses of colchicum, given in alkaline diuretics,

are of most service in gouty bronchitis; in such cases opium and other sedatives should be used cautiously.

A mixture of sulphate of magnesia and tincture of digitalis will often relieve the affection of the heart consequent on misplaced gout.

In all the thoracic forms of this variety mustard sinapisms are of great use.

When the stomach is the part affected, the treatment must comprise chloric ether, colchicum, ammonia, and stupes.

In all cases of misplaced gout the feet should be placed in hot water and mustard, subsequently keeping them warm by means of hot jars or flannels.

CHAPTER IV.

GOUT IN ITS SEVEREST FORMS.

REGULAR, OR ACUTE AND RETROCEDENT GOUT.

In rare cases, Regular or Acute Gout seizes on its victims without any kind of warning, when apparently in perfect health. More usually, however, one or more of the premonitory symptoms before mentioned give notice of its approach. In either case the attack generally occurs in the middle of the night, or as day is dawning.

The individual retires to bed, perhaps feeling better than usual, and sleeps, often soundly, for some hours. Towards morning, usually between one and four o'clock, he is awakened by severe pain in the affected part, which in a very large majority of cases is the ball of the great toe.* On examination, however, it presents no

* The metatarso-phalangial joint of the great toe is the one usually attacked.

unnatural appearance. But in a short time, while the patient often feels cold, and perhaps shivers, the part becomes red, hot, and swollen. The pain also increases until it is well-nigh intolerable. The veins of the neighbouring surface are distended with blood, the patient, too, is irritable, and cannot bear the least noise, or the slightest weight on the affected part. After some hours of intense torture, the swelling increases; a slight moisture bedews the surface, and gradually the sufferer, exhausted, sinks into a short slumber. On awaking, the part is swollen, tense, and disfigured. The patient is now, too, in the height of fever; the pulse is quick, full, and often hard, the tongue thickly coated, the skin dry, the urine scanty, the bowels constipated, and the fæces almost devoid of bile.

In this state the day is passed. As the evening advances the fever and pain become still more aggravated, and the unhappy patient, after an uneasy and comfortless day, passes a restless and well-nigh sleepless night. Towards morning the swelling has considerably increased; and the pain abating, the sufferer sleeps for several hours. Another exacerbation takes place on the following night; but on the third day

there is considerable relief. The toe is now much swollen and œdematous, and the veins leading from the part are turgid with blood. From this time the pain gradually subsides, the redness also soon disappears, and at the end of ten days the patient is convalescent. As the disease subsides, the affected part usually desquamates.

The foregoing is a description of a mild first attack of regular, or what I would term, acute gout. In more severe cases the disease runs a much longer course, being accompanied by more intense fever and more prolonged suffering.

The pain of gout, which is its first symptom, is of a most peculiar agonizing and generally throbbing character. This latter characteristic often leads the inexperienced to believe that the part is about to suppurate. This, however, never takes place in primary gouty inflammation.

After the first paroxysm of the disease, the patient is usually free from it for a considerable space of time—often for years. Numerous instances have been recorded where, through moderation and care, even a long lifetime has been spent without a second visitation. In most cases, however, the lesson learnt in the

first attack is soon forgotten, and the patient relapses into his former habits. After a variable time he is again visited by the disease, from which he recovers more slowly, but still perfectly. A third attack, however, which follows after a still shorter intermission, usually leaves much stiffness. This is soon succeeded by a fourth; and thus the disease progresses. Each attack leaves its traces, until at length a time arrives when the patient is never entirely free from the disease, one paroxysm coming on before he has thoroughly recovered from the previous one. At first the toes are the only parts affected; but soon the hands and other parts are attacked. At each recurrence of the disease deposits of urate of soda are formed about the articulations. These gradually enlarge with each successive seizure, impeding the tendons in their action, contracting the members, and producing much deformity. Depositions are also formed in the blood-vessels, and even the vital organs do not escape. Thus, in the course of years, the malady begins to tell on the whole system. The heart becomes enfeebled, the coats of the arteries lose much of their elasticity, and the patient is subject to severe attacks of bronchitis. Occasionally, in making some violent effort, the weakened heart is

unable to propel the blood with a strength necessary for the exertion, and death relieves him from all further sufferings. Or his natural strength fails him, when labouring under one of the frequent fits of bronchitis, mucus gradually accumulates in the bronchial tubes, and he expires, asphyxiated. At other times the cerebral arteries, weakened by deposit, rupture, and the patient dies of apoplexy, and finally, he may succumb, after a protracted illness, to granular degeneration of the kidneys, followed by dropsy and uræmic coma.

Thus, it may be seen that when gout runs an unchecked course, it often leads to a fatal termination. In other cases, however, under proper care and treatment, the affection is kept in a state that does little to shorten life.

As an attack of gout is passing away, there is usually a copious deposit or sediment found in the urine. The fæces in most instances are copiously coloured with bile. The skin, too, often aids much in the general elimination.

Though the patient is somewhat weakened when the fit is subsiding, still he expresses himself as feeling better than before his illness. His mental faculties are also much invigorated. This may be in some measure

due to the excitement of the nervous system produced by the inflammation, but is more probably due to depuration of the blood by the preceding active elimination of the morbific matter, which had been acting as a slow poison upon the sensorium.

The first attack is most usual in spring, between the ages of thirty-five and forty-five. The older the patient the more severe are the paroxysms, and the shorter the intervals.

The tissues which have been the seat of a fit of gout are often left stiff, tender, and infiltrated with concretions. These principally consist of urate of soda, and constitute when about the joints and tendons what are known as tophi or chalk-stones. These sometimes produce inflammation and ulceration, or even suppuration in the neighbouring parts. These deposits at first increase only with each paroxysm of the disease, but when the system becomes thoroughly gouty, accessions are continually taking place, without the slightest pain or other symptom. Ultimately the skin which covers them gives way, and the so-called chalky mass is exposed.

Besides the terminations of an attack of regular or acute gout just mentioned, it may terminate in meta-

stasis. This is what is known as retrocedent gout. The disease may suddenly disappear from its first situation, and quickly attack some internal organ. The stomach, heart, or head are the parts most usually affected. The patient may find the pain suddenly subside in the toe, or other affected joint, and immediately after he experiences severe cramp in the stomach. This is often accompanied with sickness and vomiting, which usually assumes a coffee-ground appearance. In other cases, where the metastasis affects the heart, the patient at first feels a sudden agonizing pain in the cardiac region, with a sense of fainting, and then sinks into profound syncope, from which too frequently he never recovers. Should he, however, do so, he suffers much from severe palpitation, with great difficulty of breathing, often followed by a severe attack of bronchitis.

Should the head be the seat of the transplanted disease, it occasions, first, intense pain, quickly followed by stupor. This is usually but partial. A patient so affected very closely resembles a person recovering from concussion of the brain. He lies immovable, with closed eyes, without paying any attention to or without recognizing those about him. If spoken to loudly, he opens his eyes, and stares vacantly at the speaker. If

told to put out hand or tongue, he does so. He understands what is said to him when spoken to in a loud voice, but soon relapses into his former stupor. From this state he may gradually recover, or may sink into a state of coma, from which he seldom recovers. On other occasions symptoms of apoplexy are immediately developed.

I was once summoned to the bedside of a man who, after the affected foot had been placed in cold vinegar and water, became suddenly insensible. His wife, who had left him but a few minutes previously, was attracted by his loud snoring, and being much frightened, attempted, in vain, to awake him. I found him with all the symptoms of apoplexy. After two days of anxious treatment, he revived; half his body, however, remained paralyzed. From this he ultimately recovered. He has since then (now ten months) been entirely free from gout, which before had been a constant visitor. But the mental faculties have never been as clear as they were prior to his attack. He now lives by rule, and avoids everything which produces the slightest indigestion.

When retrocedent gout has once occurred, it is very likely to recur. Occasionally the disease will seize on

several organs at the same time. Thus it is not unusual to find a patient suffering from palpitation, difficulty of breathing, pain in the head and stomach, severe hiccup and vomiting. In those cases I consider there is far less danger than in that form in which one vital organ alone is affected. In the latter case the life of the patient hangs on the most slender thread. The slightest false step will turn the scale against him, and death will release him from all further pain. Such cases are indeed sad; as a gouty patient too often looks upon his disease as a sort of lease of life, and is seldom expecting to be so suddenly summoned before his Maker.

CHAPTER V.

PATHOLOGY AND CAUSES OF GOUT.

THE condition of the liquor sanguinis is of the first importance in the production of this formidable malady. The disease cannot be developed unless the blood contain a considerable quantity of uric acid and soda in some form. Thus far the uric acid theory is correct. But, in my opinion, it is an error to suppose that these two exist in combination before an attack of gout: the moment they combine, the disease is produced. In those who are predisposed to the affection, the union of soda and uric acid is prevented by the influence of the nervous system. When, from any cause, the nerve-force is suddenly lessened, the circulation becomes languid, passive congestion occurs, and the uric acid seizing on the soda forms urate of soda. This is deposited in the tissues, generally in those most removed from the centre of circulation,

inflammation results, and an attack of acute gout is established. The irritation produced by the disease excites the nervous system to unusual energy; this invigorates the heart to increased action, and a greater or less amount of fever is set up. The rapid circulation stimulates the almost congested organs, and the kidney, liver, and skin aid one another in eliminating the uric acid. Thus the fit passes off, leaving the nervous system in a more energetic condition than before, the mental faculties clearer, and the patient finds himself in a far better state of health than previous to his illness.

According to this theory, the links furnished by Cullen, Gairdner, and Garrod may all be developed and united. Thus, to my mind, is formed a perfect chain of evidence as to the nature of this important affection.

In youth, before care, anxiety, and disappointment have well-nigh worn out the brain, the nervous system is active; and, in spite of dissipation and indulgences of all kinds, gout is rare. But, as soon as age and care lay their mark on the great nerve-centre, gout but too often appears.

Then also the stomach refuses to digest all that is

presented to it. Food, which before could be taken with impunity, now produces dyspepsia. The bowels become constipated, the liver sluggish, the skin is seldom moist, the urine is scanty, and the patient feels disinclined to make the slightest exertion. His desire for food still continues. Stimulants are called in to assist digestion. Gradually the blood becomes loaded with lithic acid; and, as the nervous influence becomes less, passive congestion occurs. This gives rise to more or less acute pain, generally in the stomach, for which brandy is usually administered. This, by stimulating the heart, removes the congestion, and so stifles the warning given by nature.

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If these attacks occur in the muscles or other parts of the body, they are usually classed as neuralgic, or rheumatic pains. But if they are so severe as to occasion very much suffering, they constitute the variety which is known as anomalous or irregular gout.

The presence of lithic acid and soda in the blood forms what is known as the lithic acid diathesis, and is what may be termed the predisposing cause of the disease. The combination of these two salts, which is produced by nervous depression, is the exciting

cause of the affection. If only congestion results, the disease is anomalous or irregular gout. But if inflammation be produced, it constitutes, according to its situation and subsequent phenomena, the atonic, misplaced, or metastatic form of gout.

The causes of the disease may be either those which tend to the accumulation of uric acid in the blood, or those which produce nervous depression. There are, however, many things which tend to produce both effects.

The disease is said to be hereditary. Undoubtedly the habits, tastes, conformation of the different organs, and so forth, often descend from father to son, and even through generations. It is very probable that in this lies an explanation of the hereditary nature of gout. By care, exercise, and moderation, an hereditary predisposition can always be overcome.

It is now generally supposed that all the albuminous substances which enter into the blood are converted into uric acid. This is eliminated from the body, after oxidation, as urea, carbonic acid, and water. Dr. Bence Jones says, "The number of substances that are formed between albumen and urea are vastly more than between starch and sugar; but whatever their

number, there must be an antepenultimate; and uric acid is the penultimate, and urea the ultimate product of oxidation. Hence there are two ways in which an excess of uric acid may occur in the blood and textures: first, from the excess of animal or vegetable albuminous food entering the system—*i. e.* from excessive production; and, secondly, from an arrest of oxidation—*i. e.* from want of destruction. Of course the greatest accumulation of uric acid will occur when the albuminous food is excessive, and when at the same time the oxidation is least. Even if no excess of albuminous food is taken, yet if the oxidizing action is deficient, uric acid may accumulate in the serum, and it will immediately diffuse even into the bloodless textures. On the other hand, an excess of albuminous food may be taken, and accumulation of uric acid in the blood may occur. It is therefore evident that there are two modes of preventing the gouty diathesis; first, by diminishing the amount of animal and vegetable albuminous foods; and, secondly, by promoting oxidation. In other words, the smallest amount of food, and the greatest amount of air, are antidotes for the gouty diathesis. If an excess of fresh air is taken whilst a large quantity of food is eaten, these

cause no gouty diathesis as long as the antidote (oxygen) destroys the *materies morbi* (urates, or substances out of which the urates are formed)."

From this it will be seen that anything which lessens the free oxidation of the blood will be a cause of gout. Hence, we find want of exercise one of the most frequent occasions of the disease. Many notable examples are on record where the mere change in this one particular effected a cure. My own note-book furnishes many such cases.

About two years ago I was consulted by a gentleman in the army. Although but thirty-two years of age, he had experienced no less than three attacks of regular gout within the previous twelve months. He had always been accustomed to an active life. But, having been stationed for some time past in places where there was little inducement to take exercise, he had acquired sedentary habits, seldom leaving his quarters, except when compelled to do so by professional duties. When I first saw him, he was much depressed in spirits, complained of loss of appetite, indigestion, and other disorders which usually affect the gouty. With the aid of medicine those urgent symptoms were soon relieved. I confined my further prescription

to early rising, and two hours' active exercise daily. This he followed perseveringly. At the end of some eight months I again saw this gentleman. He then informed me that he had long since been restored to perfect health, and had been for many months free from every trace of the disease.

A man, forty years of age, who had been a messenger in a mercantile office for twelve years, was promoted to the office of resident clerk. I saw him when labouring under a second attack of regular gout. He informed me that in his former occupation he always enjoyed good health; but during the eighteen months of his present employment he had been a constant invalid, dyspepsia, urticaria, and sleepless nights having reduced him to an unenviable condition. As soon as he was able to do so, I ordered this man to rise at five, and take an hour's active exercise in the morning, half an hour in the middle of the day, and an hour again in the evening. This he continued regularly for three months. At the end of that time he was much altered. His indigestion and dyspepsia had disappeared. He slept soundly, and was in every other respect in perfect health. He has never forgotten the lesson thus learned, and since that time

he has never had the slightest illness. I could record many such cases; but as they are of everyday occurrence, many such must be familiar to all.

When in a state of freedom, the blood of wild animals who live entirely on flesh does not contain uric acid; but when they have been confined for some time in our Zoological Gardens, this acid often exists in considerable quantities. In such cases the urine is loaded with urates.

The blood of men accustomed to continual hard labour contains but little of this acid. In men who lead sedentary lives it usually exists in abundance.

On one occasion I took some ounces of serum, by means of blistering, from two patients confined in the accident-ward of Jervis Street Hospital. The two men had been admitted on the same day—ten days previously—with fracture of both bones of the leg. They were otherwise healthy. That taken from one was free from any trace of the salt, but that from the second was loaded with urates. The man from whom the latter was taken was a tailor, the other being an agricultural labourer. I have, moreover, frequently found the blood of men which was on their admission

into the hospital free from every trace of the acid, after six or seven weeks of confinement, became loaded therewith.

As air and exercise tend to invigorate the nervous system, the want of it must produce depression. In this way sedentary employment is one of the most frequent predisposing causes of the disease.

The origin of gout may also be very often traced to the habitual use of stimulants. Alcohol quickens the heart's action, and thereby excites the brain. When this is constantly repeated, the entire nervous system is weakened. Thus, too, immoderate smoking and venereal excesses produce the disease. In the present day women are comparatively free from gouty affections. This immunity is in a great measure, if not entirely, owing to the fact that they seldom indulge in the excesses so common with men. Hippocrates stated that women were free from the gout; but at a later period, when during the Roman Republic their habits had changed, Seneca wrote:— "The nature of women is not changed, but their manner of living; for while they come up to men in every kind of licentiousness, they equal them in their bodily disorders. Is it, then, surprising to find the most

skilful physician* in error, when we see so many women gouty and bald-headed? They have lost the benefit of their sex. They have cast off the woman, and are doomed to the diseases of men." Gout moreover is a frequent disease among prostitutes after a certain age.

Depressing mental emotions are the most frequent causes of an attack of gout. Statesmen, politicians, and mercantile speculators have always been remarkably subject to the affection. Sudden depressing news frequently brings on a seizure of the disease. It is also remarkable that the impregnation of the system with lead tends much to produce the malady. Hence painters, compositors, and persons who are constantly brought by their occupation in contact with that metal, are frequently attacked with gout.

* Hippocrates.

CHAPTER VI.

PROGNOSIS IN THE SEVEREST FORMS OF GOUT.

THE most important consideration in connection with gout is the prognosis. Whether the disease is curable or not is a question which has in every generation occupied the attention of the medical world.

Hippocrates, Galen, Celsus, and most ancient physicians held that, if treated before concretions had formed, it readily yielded to remedies. But many who have lived in more recent times believed, either that "gout was the only cure for gout," or that it was altogether an incurable affection. Even in the present day many eminent physicians lean to this opinion. Sydenham never administered medicines during an attack. Cullen thought that the common practice of committing a person suffering from gout to patience and flannel, was established on the best foundation. Others have even recommended an absence from all

treatment, looking on medicine as not only of little service, but even deleterious. They have therefore left gout to follow its own course, not only to render the life of its unfortunate victims miserable, but even to drag many of them to an untimely grave.

That age has, however, passed. Gout no longer forms the *opprobrium medicorum*. Few physicians will be found in the nineteenth century to deny that it is as curable as most, and far more curable than many, other diseases.

Many of the medical profession, however, believe it to be so only in its earlier stages. Yet I have not the slightest hesitation in saying that it is perfectly curable in every stage, provided no deposit has been formed in the blood-vessels, or in any of the vital organs, and that no organic disease exists.

The following case is one on which I much depend in forming this opinion.—J. B., a grocer by occupation, and now forty-five years of age, was first attacked just fifteen years ago with regular gout. This paroxysm lasted about three weeks. He was then free from the disease for eighteen months, when a second seizure left him crippled and lame for a considerable time. Both these attacks had occurred in the great toe of the right foot.

From this period the affection returned frequently, not only in the toes, but also in the ankles, fingers, and wrists. Concretions soon formed, and when I first saw him, many of these in the vicinity of the digital articulations had ulcerated.

The fingers, too, were much disabled, and he walked with considerable difficulty. The time he was free from the disease was extremely short. The paroxysms, which occurred in rapid succession, weakened him to such an extent that he was incapable of almost any exertion. He had consequently been obliged, some years previously, to retire from business. From colchicum he had at first experienced much relief; but being unable to resist the temptation when in agony, he had used this drug so frequently that its effect was now but slight. In this state I saw him for the first time. The great toe, the ankle, and the knee were all swollen, and the first two were œdematous. As I entered, the patient was sitting up in the bed rubbing the part in the immediate neighbourhood of the inflamed member, and crying like a child. His face was pale; the eyes, however, remained brilliant. The heart's pulsation was weak and quick (110 in the minute), but regular; his tongue much coated, his bowels constipated,

the urine scanty and intensely red and acid. There was some tendency to perspiration. He had suffered during three days and three nights so much that he begged of me (his speech interrupted by frequent sobbing) to relieve him from what he termed his agony. I ordered a mash of camomile-flowers and poppy-heads to be made, and having been well sprinkled with tincture of opium, to be applied to the affected joints. I then procured for him a night's rest by means of subcutaneous injection of morphia and by a fifteen-grain dose of hydrate of chloral. Next day, by the use of calomel and rhubarb, the liver and bowels were relieved. After which a few days of alkaline and colchicum treatment improved his condition so much that all acute symptoms had ceased. I now ordered him small doses of quinine, and commenced gradually to reduce his stimulants. His diet, too, was carefully marked out. Every four hours he partook of a small quantity of nutritious but unstimulating food. At six in the morning he ate a small piece of bread and drank a cup of coffee. At ten o'clock he partook of oatmeal porridge with milk; at two, beef-tea and bread; at six, a small quantity of plainly-dressed animal food and some well-cooked, easily-digested vegetables. This was occa-

sionally varied with arrowroot, sago, white fish, and the like. Each day, when he was unable to walk, he went in a cab to the country, and sat for two or three hours in the open air. A Turkish bath was ordered each morning at a temperature of 120°. In this he remained two hours. His drink was now confined to lemonade, mineral water, and a single glass of good whisky during the day. Beer and porter, which had been his usual drink before, were strictly forbidden. After two months of this treatment he was so much improved as to walk a little, and very shortly after he was able to ride. Thus he continued with little alteration for six months, during which time he had three or four abortive fits of the gout. Shortly after he bought a farm in one of the most healthy parts of Ireland. His regimen and diet were continued rigorously, and his medicine altered to the triple phosphate of iron, quinine, and strychnia, in half-drachm doses, three times a day. He was so far improved nine months after I first saw him, as to be able to walk many miles, partridge-shooting. His improvement continued until he again consulted me last December. This time he was affected with a slight rash of Psoriasis. I found him now, just two years since the commencement of the treatment, in the follow-

ing condition:—The pulse was full, and but seventy beats in the minute; the tongue clean, the bowels moved regularly once a day; his complexion bore a healthy, florid aspect. The urine, which had been kept for my inspection, was copious and clear. The skin moist and soft, the chalk-stones had almost disappeared. The patient assured me he was as well able to undergo the fatigue of a day's fox-hunting as any man in the county, and had repeatedly spent the entire day walking, while engaged in partridge-shooting. He was quite free from all traces of gout, and had not had the slightest symptom of the disease during the past twelve months.

Porphyrus relates the case of a Roman senator named Rogatianus, who was a martyr to gout, and was so crippled as to be wholly unable to walk. Inspired by the teaching of Plotinus, the Platonic philosopher, he became so eager in the pursuit of learning that he retired from public life, dismissed his servants, and restricted his diet to the most moderate fare. He not only recovered perfectly from the disease, but became remarkable for his agility. The joints of his fingers, formerly stiffened, recovered their freedom, so that in the use of tools he surpassed many artisans.

Van Swieten records the case of a clergyman in the enjoyment of a "fat benefice," who suffered from a most inveterate form of gout for many years. He was captured by pirates, and compelled for two years to work hard at the oar. When, after being redeemed from his captivity, he returned to his native country, he had lost his cumbrous and superfluous flesh, "nor was he ever afterwards affected with gout, though he survived several years."

Musgrave relates a still more extraordinary recovery. A gentleman was seized at the middle period of life with an attack of gout, whose violence was proportioned to his previous excesses, he having spent his entire youth in indulgences of all kinds. One attack followed another in quick succession, until at length his health was undermined, and his joints were covered with numerous large chalk-stones. After a time, his fortune being spent, he took to brick-making, and underwent much privation and fatigue. Soon his appetite returned, his body was reduced in size, and became powerful and strong. His chalk-stones all disappeared, and he lived for many years thereafter with great labour and moderate fare.

Very many such cases might be quoted. But those

already mentioned I consider justify me in saying that, as long as there is no organic disease of the heart, brain, kidneys, or blood-vessels, every case of gout is curable.

For this purpose, however, it becomes of vital importance that the patient should possess both resolution and perseverance, and adhere strictly to the directions of his physician. When such a subject is met with, he may be assured that, with time and patience, his disease can, not only be cured, but its recurrence prevented.

In young subjects, otherwise healthy, the affection yields readily to treatment, and may be considered as one of the most curable of all diseases.

In elder or much debilitated subjects it is more difficult, but still possible to cure.

If much organic disease co-exist, the symptoms may be much alleviated, but the prognosis cannot be favourable.

CHAPTER VII.

TREATMENT OF REGULAR GOUT.

ALTHOUGH it is generally admitted that little progress has been made in the course of many centuries in the pathology of gout, most writers affirm that much has been effected as to its treatment.

It is almost certain that Bayrus, a physician who was himself afflicted with gout, and who lived about the same time as Morgagni, not only cured the disease in his own person with the corms of the *Colchicum variegatum*, combined with other purgatives, but, by undergoing a course of like medicines three or four times a year, effectually prevented its recurrence.

Nevertheless, most of the ancient physicians believed medicine to have but little influence on the disease. Morgagni said that most remedies have either never been at all useful, or at least of very little service, and that some have thrown patients into great danger, or have been the cause of their deaths. Even Syden-

ham, himself a martyr to the disease, never used medicine during the fit, and very many recent authors doubt its efficacy.

As gout is a disease due both to the abnormal accumulation in the blood of a substance that ought to have been excreted, and to depression of the nervous force by which this *materies morbi* is held in a condition in which it may be eliminated, it follows that the treatment may be either directed to the excretion of the uric acid, or towards restoring the nervous system to its normal condition. The treatment may likewise be either curative or preventive. The latter will be considered in the subsequent chapter.

When gout is seen at an early stage of the paroxysm, while the affected part is painful, red, and swollen, before it becomes œdematous, the treatment should commence with a stimulating emetic. I usually select mustard and water, as its action is speedy, and its result certain. A dessert-spoonful of the former in a pint of the latter will generally be sufficient. This quickly produces vomiting, and by stimulating the whole nervous system, affords the patient a considerable sense of relief. If from any cause mustard be inadmissible, sulphate of zinc may be substituted.

As an emetic of this kind does not weaken the patient, but, on the contrary, stimulates, it may be used even when the subject is aged, or the disease is of an atonic character. In the former case, however, it is proper to insist on the patient taking subsequently such copious draughts of tepid water as will effectually prevent straining in the act of vomiting. From frequent observation of fits of gout—some treated in the earlier stage in this way, and some without the emetic—I have a strong conviction that cases where the treatment is so commenced are much shortened, and have much less tendency to become chronic.

A few grains of calomel, or blue pill combined with compound rhubarb pill, should next be administered. If necessary, this may be followed by a purgative draught of senna, rhubarb, or magnesia. This not only clears out the often loaded bowels, but also relieves the almost congested liver, and aids in eliminating the *materies morbi.*

In some cases where the kidneys are much diseased, calomel or blue pill must be but sparingly used. Garrod says he has seen two grains of the former salivate such a patient. Taraxacum, aloes, colocynth, may be used as purgatives when preferred.

The next step I would recommend in the treatment of gout, in plethoric patients, would be the abstraction of three or four ounces of blood. There is, unfortunately, a great prejudice against venesection. Nevertheless I am convinced that, not only in this, but also in many other acute affections, much good would result from the use of the lancet. The first time I had experience of its effect in gout was when summoned to an hotel in Dublin to visit an elderly gentleman, whom I found suffering from the acute form of the disease. He was sixty-five years of age, but yet so strong and healthy-looking that I should not have thought him to be within twenty years of that age. It was his first attack, and when I informed him of the nature of the affection he requested me to bleed him. I explained that it was very unusual to use the lancet with men of his age. However, having been repeatedly bled when young, he insisted upon the operation being performed. I reluctantly complied. Much against his will, I stopped the flow from the vein when I had taken but five ounces. The pain, which was most acute before the operation, rapidly subsided; and though it returned in mitigated form, yet in four days this gentleman left Ireland

without the slightest trace of the disease. Since that occasion I have tried venesection in several cases, and with such results that I can confidently recommend its adoption as part of the treatment in all cases when the patient is of a plethoric habit. It invigorates and serves to restore the nervous energy. Gairdner also recommended such bleeding. He believed that, instead of being debilitating in its effect, it may be ranked with tonics, on account of the cheerfulness, energy, and sense of power it suddenly restores to persons oppressed by a state of plethora.

The attention must next be directed to regulating the diet. Animal food and stimulants should, in most cases, be forbidden, at least during the earlier stages of an attack. If, however, from the general debility of the patient, stimulants of some kind are found necessary, gin is the least injurious. After this rank the lighter French wines, and good whisky or brandy. Sherry and port are particularly to be avoided. The system should not be weakened by a too-restricted diet.

Some kinds of vegetables seem of great use. Amongst them may be mentioned well-dressed onions, garlic, and turnips. Beef-tea, semolina, arrowroot,

porridge, flummery, sago and milk, may all be used in keeping up the patient's strength. The drinks most suited are lemonade, alkaline mineral waters, especially lithia-water, with or without milk, toast and water, or barley-water. The internal treatment should consist of alkaline mixtures, as diuretics and diaphoretics Of these, I believe potash to be the best. The carbonate, citrate, tartrate, and nitrate may be used separately or combined. The carbonate and citrate of lithia have been much recommended, and are supposed by many to be superior to the other alkalies.

After this treatment has been pursued for a little time, the attack may be quickly relieved by a dose of colchicum. Against this medicine there is a great and, perhaps, unjust prejudice. It is believed that though it relieves the attack for a time, it renders the system more liable to a speedy return of the disease. That this is an error I have no doubt. Many who have been relieved by colchicum, knowing its apparently magical influence, are less cautious in exposing themselves to the dangerous occasions, and indulging in those luxuries which produce the disease, than those who, unrelieved by this medicine,

have been obliged to endure the unmitigated pain. I believe colchicum, especially in small doses, to be a nervous stimulant, and, as such, acting on every organ in the body, is at the same time a purgative, diuretic, and diaphoretic. Its too frequent use, like that of any other stimulant, tends to produce disease of the vital organs, especially the heart, as well as to exhaust the nervous system. It may, however, be used without fear in the first few attacks of the disease. It is probably better practice not to use it during the first couple of days, until the organs of elimination are relieved from their well-nigh congested condition. It may, towards the end of a paroxysm, be beneficially combined with Battley's sedative, or tincture of opium.

At one time I had great hopes that hydrate of chloral would have proved as effectual as colchicum. The first occasion on which I employed this drug was in the case of a master butcher, a free liver, who had been frequently within the previous year visited by the disease. I had attended him for the first time in his former attack, and his suffering had been so intense, that I relieved him on the second day of the disease with a dose of colchicum. On the last occa-

sion I was not summoned until he had already been suffering for two days. I ordered him three draughts, containing 15 grains each, of hydrate of chloral. After taking the first the patient was excited. After the second he fell into a deep sleep, from which he did not wake for seven hours. He was then entirely free from pain. The following night, however, he had a relapse, but the remaining draught gave him permanent relief. About six weeks after, I was sent for during the night, and found my patient in a state of great excitement. He had been seized a few hours previously with gout, and remembering the relief he had experienced from the draught, sent for, and immediately took, a similar one. No sooner, however, was it swallowed, than he became so much excited that he could with great difficulty be restrained in bed. He slept soon after I saw him, and the fit proved much shorter and milder than was usual.

Since this case, I have repeatedly tried the drug, and invariably with this result,—if administered early in a paroxysm, even small doses excite the patient, but do not relieve the pain. Later it is most useful, as it usually relieves the pain to a considerable extent, and shortens the attack.

As soon as the fever attendant on the earlier stage of the disease has abated, it is most desirable, by means of a heated room or Turkish bath, to compel the skin to aid in eliminating the *materies morbi.* The temperature used for the purpose should not exceed 130°, and the patient should remain in the bath for a considerable time each day.

It has often been doubted whether urea or uric acid can be eliminated by the skin. Being convinced by personal observation, and by the fact that even the most gouty are comparatively free from the disease in summer, when the skin is constantly moist, that such a result was attainable, I resolved to ascertain the truth of my conviction. An occasion soon offered itself. A patient who was constantly subject to the disease, consulted me, having for some days past had the usual premonitory symptoms of the paroxysm. I ordered him to take a Turkish bath, and commissioned the shampooer to collect the perspiration. About three ounces were accordingly sent to me. This I evaporated, and tested by Garrod's thread test. I was, however, much disappointed in not finding crystals deposited thereon. The evaporation was still continued, and the residue treated with nitric acid

and subsequently with strong liquor ammoniæ. This test left me in little doubt; for the peculiar red colour, indicating the presence of urates, was distinctly seen. Thus encouraged, I first tested some serum of my own blood; and finding abundant proofs of the existence of uric acid therein, I spent three hours in the "Hammam." With the assistance of the shampooer, I there collected nearly a pint of the cutaneous secretion. From this, after evaporation, I obtained abundant crystals of uric acid, but none of urate of soda. Since that time I have frequently found uric acid in the perspiration, and am now convinced that it is through this channel that most of this substance is eliminated.*

Towards the close of an attack, the treatment should be directed, by means of tonics, especially those which

* Among the gouty patients whose perspiration I frequently tested, was one who had repeatedly been attacked with the regular form of the disease. The secretion from his skin was usually intensely acid. He ceased to be my patient for a considerable time, when one day the shampooer from the Hammam, in Sackville Street, Dublin, brought me about three ounces of very muddy-looking perspiration. He told me that the gentleman above alluded to had taken a bath that day, and was looking very ill. The litmus-paper soon showed me that the secretion was highly alkaline. Six days after, this man was dead from typhus fever.

are considered nerve tonics, to restore tone to the whole system. In this way much may be done to prolong the interval between the paroxysms. I usually commence with small doses of quinine once a day, increasing gradually both the frequency and the quantity of the dose. After ten days of such treatment, unless there is something to contra-indicate its use, I usually order the patient small doses of the triple phosphate of iron, quinine, and strychnia. Sometimes, however, when from the tendency to plethora, I did not wish to use this combination, I have tried sulphate of nickel, or sulphate of zinc, with good effect. Both of these I consider excellent nerve tonics.

In conjunction with internal treatment many local applications are of service. Aconite and belladonna are often useful. All kinds of strong spirits relieve the pain. The popular remedy consists in rubbing whisky on the painful joint, and I know of no more powerful agent in affording ease. Linseed-meal poultices, if the weight can be borne, often have a soothing effect. Cotton wool is also much used. But perhaps the best local application is a piece of lint, soaked in tincture of opium and tincture of the seeds of colchicum, and

covered with a piece of oiled silk. A mash made of poppy-heads and camomile-flowers will likewise often be of service in giving relief. Blistering and the moxa have likewise been recommended.

In cases where much stiffness and pain remain, when the acute disease has passed off, I have found a liniment composed of iodine and iodide of potassium most efficacious.

In all cases of metastatic gout our chief reliance must be placed on counter-irritation. If the stomach be the part affected, turpentine stupes should be at once applied, followed by the application of a mustard leaf or cataplasm. Stimulants in such cases are seldom necessary. Sometimes, however, the patient seems so much benefited by them, that when the heart's action is weak they may be used. Solution of the muriate of morphia should invariably be injected subcutaneously.

I was once summoned to see a lady who was the subject of this variety of gout. The disease had subsided suddenly in the hand, which had been inflamed on the day previously, and she was soon after seized with severe cramping pain in the stomach. I saw her half an hour afterwards; she was then vomiting, and firmly believed that she had been seized

with true cholera. I immediately injected 16 minims of solution of morphia subcutaneously, placed her feet in hot water, and applied a turpentine stupe to the abdomen. In three-quarters of an hour afterwards she fell asleep, and on awaking next morning was entirely free from the disease. In the course of the day, however, it attacked the instep, and ran a three days' course.

When the affection attacks the heart, in most cases the abstraction of three or four ounces of blood, blistering, together with colchicum and chloric ether, will relieve. But if the heart's action be feeble and very rapid, chloric ether, ammonia, and stimulants will be the proper treatment.

In metastatic gout to the head, a stimulating injection, mustard to the calves of the legs, and a little colchicum, combined with some powerful purgative, will give the patient the best chance.

Before concluding this chapter it may be interesting to briefly glance at the treatment of other authors. Ancient physicians who had any faith in the medicinal treatment of gout, placed their reliance on purgatives. And in every generation, even to the present day, physicians have been found to recommend the entire

treatment of gout to consist of drastic purgatives. I believe that nature sometimes selects the intestinal canal as the channel through which to eliminate the poison, but in general it is only used as an adjunct. Much purgation tends to weaken a patient to such an extent, that the disease is often left in such cases as atonic gout.

Many physicians have also advised copious and oft-repeated bleedings. This, however, can only be mentioned to be condemned.

Calomel has likewise been much lauded by those who consider gout to be due entirely to deficient action of the liver, and some have modified this treatment by administering small doses of mercury each day, combined with other treatment. My own conviction is that, early in an attack of the regular gout, small and occasional doses of calomel are highly beneficial; but later, I think the drug is usually injurious.

Tonics have been, from the time of Sydenham, much used in the after-treatment of gout, and no doubt can exist as to their utility.

Diuretics have of late years formed the foundation of the general treatment. The alkalies are those most in use.

All the quack medicines contain colchicum in some form or other. Thus Husson's Eau Médicale, which was for years much used by the gouty, contains this drug. Also Wilson's Tincture, and many others.

The famous Portland Powder consisted of birthwort, gentian, germander, and the top of the lesser centaury.

CHAPTER VIII.

PREVENTIVE TREATMENT.

WHEN a paroxysm of the disease has passed away, the attention must next be directed towards preventing its return. This must mainly be accomplished by the regulation of diet and exercise. The medical treatment which may be used as an adjunct consists in gentle laxatives and mild diuretics, combined with tonics.

Very many centuries ago, Galen affirmed that it was impossible to cure those who indulge in over-eating and drinking, because by their intemperate way of life they are constantly adding to the disease. This is no less true of gouty subjects at the present time. Sir William Temple advised simple diet, limited by every man's experience of his own digestion; thereby proportioning, as near as can be, the daily repair to the daily decay of our wasting system.

The first rule I would lay down for the diet of those

who have once suffered from an attack of gout, is never to consume large quantities of food at one meal. A famous physician, when once asked what a certain patient should eat, said,—"Whatever he pleases, but in small quantities at a time." If all people were to follow this precept, there would be far less disease in the world. Nothing produces indigestion and dyspepsia so frequently as overloading the stomach. In youth, whilst the body is growing, and the individual is accustomed to much bodily exercise, the digestion is vigorous, and to repair the waste large quantities of food are required, and therefore consumed with impunity. In after-life, however, when business or professional occupation prevents even a proper amount of exercise being taken, the circulation becomes languid, the respiration slow, and the digestion is usually but imperfectly performed. And yet very often in such cases the habit of overloading the stomach is not abandoned. Indigestion and dyspepsia are the result. This is evidenced by the patient becoming drowsy and incapable of mental or physical labour for many hours after a meal; sleeping badly, and frequently rising with a foul tongue and severe headache. The excretions soon become scanty, uric acid accumulates

in the blood, and the first depression of the nervous system brings with it a fit of gout.

The habit of taking but two full meals a day likewise conduces to this condition. A heavy breakfast and dinner, without any intermediate nourishment, is most injurious to health. The French system is infinitely more healthful, and more conducive to a long life. I generally advise all classes of patients, but especially the gouty, to arrange their meals in such a manner that they are never more than four hours during the day without partaking of some kind of food. Thus a moderate breakfast at eight or nine; lunch at twelve or one; an oyster and biscuit, or some light substitute, at three or four; and dinner at seven, would do much to prevent a return of the disease. Patients, however, whose occupations will permit them to do so, should dine early in the day.

The articles of food consumed by gouty patients should be carefully considered. In a work of this kind, rules and opinions can only be drawn from the average effects in a number of cases. Each individual must carefully avoid those articles which he has learned by experience to be beyond his power of digestion.

Tea and coffee have been thought injurious; but, from careful observation, I am convinced that they are both highly commendable as articles of food for the gouty. Milk, arrowroot, semolina, porridge, tapioca, sago, barley, rice, and macaroni are all nutritious, and do not tend to produce the disease.

Game, small fowl, white fish, oysters, sweetbreads, are also of great use, as articles of food which are easily digested, and in no way contribute to the undue production of uric acid.

I cannot agree with those authors who assert that gouty patients should eat very sparingly of animal food. People whose brain is active, and whose lives are full of excitement, require no small share of this kind of nourishment. Mutton and beef are the best varieties, and may be used in considerable quantities; but pork and veal should be avoided. Lamb need not be forbidden, if it agree with the patient. Most people can readily digest it, but I have known patients with whom the slightest quantity of lamb produced symptoms of indigestion.

Geese, turkey, salmon, and most shell-fish are not easily digested, and should not be used.

As a rule, vegetables are of much service to the

gouty, as they act on one or other of the eliminating organs.

Greens, as cabbage and spinach, act on the bowels. Onions, garlic, asparagus, and such-like, stimulate the kidneys. Potatoes, turnips, carrots, artichokes, and salsify tend to cause perspiration, and are therefore beneficial. Lettuce, watercress, and other vegetables, usually consumed raw, should be eaten sparingly, as they are liable to cause indigestion. Cucumber I have known to cause such severe dyspepsia, that I specially forbid its use; and for the same reason I also prohibit cheese.

Most fruits are useful in the preventive treatment of the disease. Strawberries and grapes have been used as cures for gout, and many yet believe their constant use will prevent a recurrence of the malady.

Gooseberries and currants are serviceable, but stone fruit, as a rule, should be avoided.

The fluid consumed by those who have once suffered from gout, is of the greatest importance in preventing its return. Lemonade, lithia, kali, and soda waters, or natural mineral waters, are the best draughts. Cider has been ranked by some amongst the drinks to be prohibited; but, from careful observation, I am

convinced that it has been unjustly condemned. I consider it, when taken in moderation, as not tending to produce gout. Ale, beer, porter, sherry, port, and Madeira, are particularly injurious, and should be strictly forbidden. Sparkling champagne, Moselle, hock, and Burgundy, are also capable of producing an attack of the disease. The other French, Rhine, and Hungarian wines, if of good quality, and taken moderately, do but little injury. Claret, or even champagne cup, is almost harmless, and may be used in summer. The spirits most to be avoided are rum, brandy, and whisky, but any of these I consider far less deleterious than the stronger wines. Gin, absinthe, and arrack have, in my opinion, but very little tendency to produce the disease, and are those which agree best with gouty patients.

It is impossible to lay down any decided rule as to the quantity of stimulants which may be allowed; but in general terms it may be stated that, before the age of forty, the daily use of even a small quantity is decidedly injurious. From this age to that of sixty, patients require some stimulants. The quantity varies much in amount, and must be calculated according to the force of the heart's action. As age advances,

the quantity must be increased. Generally it will be found a good rule to calculate half a glass of brandy, or an equivalent thereto, for every ten years above forty.

Open air and a due quantity of exercise is absolutely necessary, if we would ward off a recurrence of the paroxysm. Walking is undoubtedly the best means of taking both these; but, unfortunately, gouty people cannot usually take sufficient exercise in this way. Riding on horseback has at all times been much praised as a remedy for gout, and cannot be too much commended. Even carriage-exercise is of the greatest benefit where neither of the former can be taken.

Change of air, scene, occupation, and diet, is also of much service. Sea-bathing, and a visit to some of the alkaline springs, add much to the patient's interval of relief. The springs of Vichy, Baden-Baden, Wiesbaden, Aix-la-Chapelle, and Carlsbad, are those most suitable to the gouty. The waters of the first of these contain carbonate of soda. The second are rich in chlorate of lithia. Wiesbaden waters are principally composed of chloride of sodium. Those of Aix-la-Chapelle contain both the chloride and carbonate of soda. Carlsbad is famous for water containing sulphate of soda.

Should the patient be at all weak soon after a fit, or should he be afflicted with atonic gout, a visit to some chalybeate spring would be productive of much good. Those of Lisdoonvarna, Spa, Tunbridge-Wells, Pyrmont, or Schwalbach, are most to be recommended.

It will often be found that a few months' change of air to some healthy locality will remove all traces of the disease. I know of no place more suitable to gouty patients than Ramsgate or Margate, in the Isle of Thanet. Some time since I met a gentleman who, when suffering from the worst variety of atonic gout, which had crippled him for years, had spent some months in the former place. He left perfectly well. Although he attributed his cure to the Turkish and other baths in which he indulged while stopping at the Granville, and in which that princely hotel abounds, much was probably due to the bracing air for which Ramsgate is so justly famous.

The state of the skin is of the greatest importance in avoiding gout. As I have before shown, much uric acid is eliminated through the cutaneous surface. If the pores are blocked up with dirt or secretion, much will be retained in the blood which should be excreted. Frequent ablutions should, therefore, be employed.

The Turkish bath is also most serviceable. Friction is likewise of much use. Sir William Temple was wont to say, that no one need have gout who could afford a slave to rub him. Sulphur springs owe their beneficial influence in the treatment of gout to their action as diaphoretics.

Before leaving this portion of the subject, there is one point to which I desire to draw particular attention. Many gouty patients consume often a large quantity of alkaline water during dinner, believing such to be beneficial. There could be no greater error; as by so doing they diminish the digestive powers. The acid of the gastric juice is much diminished by the use of alkalies. Fortunately, however, the artificial mineral waters contain very little free alkali; but even this little is highly injurious.

I was once consulted by a person engaged in the occupation of a publican. He was very gouty, and as a remedy was advised to take quantities of potass-water. He obtained the variety which was supposed to contain the largest quantity of the alkali. At dinner he usually drank four or five bottles. The result of which was that he soon became a martyr to dyspepsia, and could not eat the lightest food without feeling

oppressed with indigestion. I showed him the folly of such practice, prevailing on him to abandon his alkaline drinks, and substitute bitter tonics. In three weeks he was entirely free from dyspepsia, and could eat a pound of beefsteak for his breakfast without the slightest symptom of indigestion.

In the preventive treatment of gout the state of the organs of elimination is of the utmost importance. The bowels should be freely moved at least once a day; and, if necessary, medicine must be used. For this purpose, Gregory's compound rhubarb powder is the best; but magnesia, senna, or the like, may be used. A tumbler of Püllna water, made hot by the addition of boiling water, and taken in the morning fasting, will also answer well. An occasional dose of blue-pill is of much service.

The kidneys may be stimulated when their secretion is scanty. Carbonate or citrate of lithia or potash is the best medicine with which to obtain this effect. Juniper is also beneficial when so employed. Of the tonics useful in the interval between attacks, quinine is undoubtedly the best. Calumba, gentian, and sarsaparilla are likewise most useful.

In debilitated subjects iron will be found of great

service, the citrate, sulphate, and tartrate being the best preparations for this purpose. Phosphorus and strychnine are also most beneficial in cases where there is not a tendency to plethora. In other cases, sulphate of nickel and sulphate of zinc will be found most useful tonics, which, judiciously used, will do much towards preventing a return of the disease.

In conclusion, I desire but to repeat my firm conviction that in every case where there is no organic disease, and where the patient possesses sufficient resolution to follow implicitly the direction of his physician, gout is perfectly curable.

RHEUMATISM.

RHEUMATISM.

INTRODUCTION AND PATHOLOGY.

Closely allied to gout, in both phenomena and pathology, is Rheumatism. So nearly indeed do these two affections resemble one another, that it is often extremely difficult to distinguish them. Yet a typical case of Rheumatism, though presenting a similarity in history and many of its symptoms, differs so essentially in its course and in the class of patients who are affected by it, that even the most inexperienced cannot fail to recognize in it a distinct disease from gout. Nevertheless, I trust to be able to show that there is a uniting link or bond between these two maladies.

Few diseases, if any, entail more misery on man than Rheumatism; moreover, when we consider the extreme helplessness and intense suffering of the patient afflicted with it, as well as the terrible heart-

disease so often consequent thereupon, it cannot be doubted that it ranks as one of the most important diseases the physician is called upon to treat.

In all probability Rheumatism was included under the general term of Arthritis by the ancients. This probably comprises not only Rheumatism and gout, but also simple inflammatory affections of the joints. There is no special disease mentioned by them, the description of which would correspond to Rheumatism. Sydenham, however, admitted its distinction, but looked upon it as a disease on which medicine had but little effect. In 1642, Baillon, a French physician, first called this malady Rheumatism.

Like gout, there have been very many hypotheses concerning its nature. It so frequently follows exposure to cold, that many have denied that it is a blood affection, and have endeavoured in vain to account for all its phenomena by looking upon it as a simple inflammatory disease, caused by cold applied to the cutaneous surface. Cullen, Scudamore, and others, considered Rheumatism a simple inflammation affecting serous and fibrous structures. Others have attributed it to arrest of the menstrual discharge, the lochia, or the secretion of the kidneys. But the rapid way in which

metastasis occurs in Acute Rheumatism, and the palpable effort nature makes by copious perspiration to free itself from the disease, sufficiently disprove these theories, and establish the now universally-received doctrine of a *materies morbi.*

Dr. Garrod and others have failed to discover lithic acid in the serum of rheumatic patients. Dr. Prout suggested that the accumulation and retention in the blood of lactic acid was probably the cause of the disease. Dr. Richardson found that the injecting a solution of lactic acid into the peritoneal cavity of a dog was followed by inflammation of both the pericardium and the lining membranes. In some cases the mitral valve was not only red and thickened, but was the subject of fibrinous deposits. The aortic and tricuspid valves were also, in some cases, found diseased. Dr. Todd, Dr. Fuller, and all recent writers, have adopted this view of the pathology of Rheumatism.

Here then, in my judgment, lies the sole distinction between Rheumatism and Gout. The former is produced by depression of the nervous system, causing, or rather allowing, the crystallization of lactic acid, or some other chemical change in its composition, which converts that which was previously a harm-

less constituent of the blood into an agent of irritation to almost every part of the body, producing fever, pain, and copious sweating. The cause of this nervous depression is usually cold. Dr. Fuller remarks, when writing of the general effects of cold, that it gives rise to chilliness or even shivering, with muscular and nervous exhaustion, diminution in the force of the heart's action, and general depression of all the natural functions. This depressing influence may proceed to such an extent as to produce a species of stupor, and almost irresistible desire to sleep, with excessive feebleness of the heart's action, and death as a natural result.

Gout, on the other hand, I believe to be caused by the union of uric acid and soda, producing irritation and inflammation, and the result of diminution of that nervous force which had held them separate.

The accumulation of lactic acid in the blood of those predisposed to Rheumatism, is dependent to a great extent, in my opinion, on the diminished cutaneous secretion for a considerable period before the disease appears.

This is often mainly due to a want of cleanliness ;

and so Rheumatism is frequently found in that class in which complete ablution is a rare luxury.

The origin of lactic acid is generally supposed to be mal-assimilation of the saccharine constituents of the food.

It is often supposed that Rheumatism is hereditary; and I have no doubt, as I have remarked of gout, that as habits, disposition, occupation, and conformation of the vital organs descend not only from father to son, but even from generation to generation, a predisposition to Rheumatism must also be the heritage of many. Women seem more liable to this affection than men, and the young are more frequently attacked than the old. Thus it may be seen that in these two peculiarities it takes an opposite course to gout.

It is also more frequently found amongst the poor and the ill-clothed and badly-fed, than with the rich and opulent; in this, too, it forms a marked contrast to gout.

Cold, damp, and depressing mental emotions are, however, the most frequent exciting causes of Rheumatism.

CHAPTER II.

ACUTE RHEUMATISM,

OR RHEUMATIC FEVER.

ACUTE RHEUMATISM, or Rheumatic fever, is the most severe form of the disease. It is generally preceded by symptoms which may be called premonitory. Coated tongue, constipated bowels, restless sleep, flying pains through the muscles and articulations, especially after much exercise, together with a general feeling of being unwell, is usually the condition of a patient prior to an attack of Rheumatic fever. The disease itself generally occurs after exposure to cold, or some great annoyance; this latter not being an unfrequent exciting cause of the disease. The lady whom I last attended for this affection attributed her illness entirely to the annoyance consequent on the loss of the house-keys; and a young man who was a patient of mine last year was convinced that the anguish experienced

by the breaking off of his engagement with a young lady to whom he was deeply attached, was the cause of severe Rheumatic fever. I could mention many other similar cases.

This disease is ushered in by severe rigors, quickly followed by pains in the back and limbs. These pains gradually increase, and become fixed in the joints, which swell and become intensely painful. The patient is now in a sad, helpless condition, restless, yet unable to move, the slightest motion producing an aggravation of his suffering. The tongue is thickly coated with a moist, creamy fur, the pulse is rapid, full, and usually soft; the temperature of the entire body is considerably raised, varying from 100° to 109° Fahr.; the appetite is lost, but the thirst is great; the skin, too, is bathed in a profuse perspiration; and the eyes and countenance display an abnormal brightness. The cutaneous secretion has a peculiar acrid smell, and is in reaction intensely acid. The bowels are constipated, and the urine scanty, high-coloured, of very high specific gravity, and loaded with lithates. Some of the larger joints, which are those most usually attacked, have become red, painful, hot, and much swollen.

After some time, varying from a few hours to several

days, the pain therein begins to decrease, but as it does so other joints are found to be a little stiff, and within a very short space of time those primarily affected are well, and the others have become the subject of the disease. Thus it is that the affection may spread from one part to another until nearly every articulation in the body has been attacked. Generally two, or even more, are simultaneously affected. At other times the disease finds its way back to the joints wherein it was first situated. In this manner the disease may continue for weeks without producing suppuration or any permanent injury, and may even disappear without visiting any of the more vital parts.

In its erratic character Rheumatism shows a remarkable tendency to attack corresponding joints; thus if it change from one knee it will in all probability attack the other.

The thermometer, as in every other blood affection, is of the greatest assistance in the prognosis of Rheumatism; an improvement of the patient's condition being shown by a fall in the temperature of the body.

The fever sometimes abates considerably as the local inflammations appear. The patient is usually much

worse during the early portion of the night, and becomes slightly relieved towards morning.

If the disease be uncomplicated, it now gradually subsides, leaving the patient perhaps weak, but little worse than previous to his illness.

I could record very many such cases: the following, however, will be sufficient to prove the correctness of this statement.

J. M. C., a lad of nineteen, was admitted into Jervis Street Hospital, suffering from well-marked Rheumatic fever; the knees and ankles were much swollen and exquisitely tender; he had been two days ill previous to his admission. On the following day, as the inflammation subsided in those joints, the right shoulder, elbow, and wrist became affected, and remained so for some days, when the corresponding joints of the other arm were seized with the disease. Seven days after the commencement of the treatment the youth was convalescent. All through the disease the internal organs remained free from every symptom of implication. The treatment adopted was that which I shall hereinafter advise to be adopted in every case of Rheumatic fever.

Many cases, however, do not run this uncomplicated

course. Internal and vital organs are not unfrequently attacked, and, if the affection does not then prove fatal, it often leaves, during the lifetime of the sufferer, unmistakable evidence of the attack, not unfrequently, in years after, bringing the unhappy patient to a premature grave.

The heart, lungs, peritoneum, or brain, are the organs most frequently attacked.

Rheumatic inflammation of the heart may occur as a primary affection, without or before the articular inflammation; as a secondary, or as a metastatic complication. I believe that the severer the attack the more liable is the heart to become affected; but very many high authorities deny this assertion. It may affect either the lining or investing membranes.

The symptoms which show that the heart has become affected are often apparent the moment the physician sees his patient. The countenance of the sufferer has lost its calm appearance, and he looks anxious and careworn. His restlessness has much increased, but yet nothing will induce him to lie on the left side. He complains of pain, oppression, or uneasiness in the præcordial region. The breathing is hurried, and there is a feeling of uneasiness and

sense of impending danger. The pulse may become irregular, and, if the affection become worse, feeble. The stethoscope applied over the cardiac region detects the distinct friction-sound diagnostic of pericarditis, or the bellows-murmur marking endocarditis. If the former affection has advanced beyond the dry stage, the increased extent of dulness on percussion, and the diminished intensity of the heart's sounds, will reveal the presence of a considerable amount of serum. Sometimes under suitable treatment all these symptoms subside, and the disease passes off without leaving any traces. At others the symptoms increase, and the patient dies of syncope, the effused fluid mechanically stopping the heart's action. Again, the disease may subside, leaving the pericardium covered with plastic lymph, and perhaps adherent, or the endocardium and valves dotted with fibrinous exudation, establishing permanent disease of the heart.

Thus, often when the patient appears convalescent, and when the joints no longer bear any traces of the severe illness he has passed through, the stethoscope placed over the cardiac region will detect abnormal sounds indicating obstructive or regurgitant disease of the heart; the former marked by systolic, and the

latter by diastolic murmur, basic if the aortic, and at the apex if the mitral are the valves affected.

Sometimes Acute Rheumatism is complicated with severe inflammation of one or both eyes.

The pleura, too, sometimes becomes attacked with rheumatic inflammation, and then are developed all the symptoms usual in idiopathic pleuritis. It also runs the same course, and may be complicated with inflammation of the lungs.

The membranes of the brain* also occasionally become affected, and even those of the spine have been known to become engaged. In such cases the symptoms are those of acute, cerebral, or spinal meningitis, accompanied with wild delirium.

Suppuration of the joints occasionally occurs.

Persons who have once suffered from Rheumatism are more liable to a second attack; and in those who have been the subject of it on several occasions, the slightest exposure to cold or damp will cause an attack of Rheumatic fever.

* See Dr. Little's case of Rheumatic Inflammation of the Pia Mater, *Dublin Quarterly Journal*, 1870.

CHAPTER III.

CHRONIC RHEUMATISM.

CHRONIC RHEUMATISM, though not so dangerous to life, is scarcely less important than the Acute variety of the disease.

It may occur either as a sequel of Rheumatic fever, or may arise as a subacute affection, showing from the commencement a strong disposition to become chronic.

In the former case, the return to health is arrested, and a certain amount of pain, uneasiness, or stiffness remains in the affected joints or muscles.

At times there is swelling, but little redness or constitutional disturbance. In cases, however, when it commences as subacute Rheumatism, feverish symptoms exist, which subside as soon as it assumes its chronic character. As it attacks different structures in various cases, it has often been described as capsular,

fibrous, tendinous, periosteal, &c.; but these distinctions are quite unnecessary, as it is in each the same disease produced by the same poison, and to be treated in a similar manner.

The symptoms of Chronic Rheumatism are principally of a local nature. It is, however, usually attended with scanty urinary secretion, and little tendency to perspiration. The bowels, too, are generally confined.

The principal, and often the only local symptom is pain. At times, this is of an aching and gnawing character; at others, it is but a feeling of slight stiffness. Between these there are, however, many grades. Generally, when at perfect rest, there is almost entire freedom from this symptom; the slightest movement, however, causes intense pain. This, too, is much more severe when the joints are the parts affected. At times, especially in damp weather, there is an aggravation of the symptoms, often to such an extent that patients who before could move about are confined to bed, or are obliged to lie on a sofa.

When Chronic Rheumatism shows a disposition to move, it is more amenable to treatment, but when it remains fixed in one joint or muscle, it is extremely difficult to cure.

The back is perhaps the most frequent seat of the affection; it is then called Lumbago. This is often so severe as to prevent a patient from moving about, or stooping forward.

When the disease affects the muscles of the chest it is called Pleurodynia. This variety often causes much suffering, and may be mistaken for pleuritis. It may, however, be readily diagnosed by the absence of fever, by the patient being able to lie on the affected side, and by the freedom from pain when the intercostal muscles are fixed. The malady affecting this situation is popularly known as "stitch," and is often supposed to be neuralgic, but I believe its rheumatic nature is tolerably certain.

Chronic Rheumatism affecting the muscles of the thigh is usually very difficult to relieve.

"Crick" in the neck, or Torticollis, is also Rheumatism, and is usually the result of exposure to a draught of cold air while the body is heated. Such cases are usually very amenable to treatment.

There is a variety of Chronic Rheumatism which I, when a student, learned to consider but an imaginary variety. This in practice I soon discovered to be an error. I now look on Gonorrhœal Rheumatism as

the most chronic variety of the disease. Some writers consider this as Rheumatism occurring in gouty patients, but I have seen many cases of it occurring in persons who were not in the least predisposed to gout, and belonging to a class in which that disease was unknown, viz., the farm labourers in the west of Ireland. I once admitted one of these men into Jervis Street Hospital, who had contracted gonorrhœa some months previously. At the time of his admission he was still suffering from gleet. The knees were first affected, subsequently the shoulders, and before he was quite well almost every muscle and joint of the extremities suffered. The disease was very slow in moving from one place to another, and when it had shifted its quarters it usually left the part last attacked stiff and uneasy. I had this man for nine months under treatment before he was quite recovered. The affection, which was very obstinate to treatment, ultimately yielded to the triple phosphate of iron, quinine, and strychnia, coupled with sea-bathing and nutritious diet.

A typical case of this affection, however, occurs at an earlier period, generally from two to three weeks after contagion. A patient suffering from gonorrhœa,

after exposure to cold, or after sleeping in damp sheets, finds one or more joints affected with Rheumatism, generally accompanied with a certain amount of fever. There is usually much effusion into the joint. The knees are most generally affected. Patients are very liable to a recurrence of the affection, which is not unfrequently also accompanied by gonorrhœal ophthalmia. It sometimes leaves much stiffness, and even anchylosis has been known to result from an attack of gonorrhœal Rheumatism. Patients who have once suffered from this affection are sure to be visited by it if perchance they again contract gonorrhœa.

The first visitation usually yields in a few weeks to active treatment: this, however, is not always the case. In subsequent attacks it is always more obstinate. Occasionally cases are met with which are well-nigh incurable. I recently met a gentleman in a railway carriage, who informed me he had been suffering for six years from the affection. He had tried every variety of treatment, under many eminent medical men, both at home and abroad, but was yet unrelieved.

Prognosis and Diagnosis. — Acute Rheumatism, though a very serious affection, cannot be considered fatal. Few perish directly from the disease; but

many a life is shortened by affection of the heart, the foundation of which is laid during an attack of Rheumatism. If treated in the early stage, a cardiac complication can generally be avoided. This, however, is not always so, as the following case, copied from the *Dublin Quarterly Journal* for 1870, will prove.

"E. G., a man, 45, temperate, was admitted into hospital under Doctor Hayden's care, May 5th, 1868, suffering from acute articular rheumatism engaging most of the large joints, but chiefly the left elbow; the cardiac sound and action were normal. He was at once put under alkaline treatment, as follows: viz.,—

℞ Acetat. potass. ..... ʒiv.
Bicarb..... ʒij.
Tint. opii..... ʒj.
Mist. camphor..... ad ℥viij.

St. coch. mag. ii. q. horâ.

"On the following day the urine was neutral, and the articular pain less severe; and on the next (May 8th) the urine was decidedly alkaline, but the patient was not so well. He had raved through the night, and was fidgety and somewhat incoherent; pupils contracted and conjunctiva injected. He likewise had cough, with mucous expectoration, and com-

plained of pain in the situation of right nipple. Cardiac sounds normal and action rapid. Cardiac complication anticipated.

"May the 9th—Mane. Patient rather pale; pupils much contracted; pulse 144, and weak; respiration quick and embarrassed. He is incoherent, and a loud friction-sound is audible over the entire precordium, but loudest and most distinctly of an 'attrition' character at the apex; no increase in area of precordial dulness. Mercury was now substituted for alkalies, and wine was given in doses of ℥j. every second hour. He became rapidly worse, and died at 8 p.m., having had a fit of convulsions a short time previously. A post-mortem was not permitted, but the area of precordial dulness was ascertained by percussion to be much extended; the pericardium likewise projected."

Chronic Rheumatism is more difficult to cure, but still the prognosis in the earlier stages is favourable.

Rheumatism is, in most instances, easily diagnosed from Gout. In doubtful cases the copious sweating and great tendency to cardiac complication will distinguish the former affection. The presence of uric acid in the blood will be a certain means of recognizing the latter disease.

CHAPTER IV.

TREATMENT OF ACUTE RHEUMATISM.

THE treatment of Acute Rheumatism is so full of importance, that I shall briefly review the different methods which have been recommended.

At one period medicine was thought to have so little influence on the disease that physicians in the time of Cullen thought it best to trust to "six weeks and blankets:" in other words, to leave Nature to cure the disease. Even in the present day this doctrine has found disciples. A physician with one of the largest practices in the United Kingdom thinks it best to leave Acute Rheumatism without medical treatment, and trust to warmth, rest, and nursing.

In the time of Sydenham great reliance was placed on copious bleedings, and this method of treatment has found advocates in more recent times, in France, Italy, and even in England.

Dr. Macleod has taken from twelve to twenty ounces

of blood several times within five or six days. By this means the advocates of this system hope, by lessening the heart's action, to arrest the disease.

Purging, too, has been a favourite remedy with many. Calomel, followed by salts and senna, or calomel and jalap, have been used day after day until the patient was greatly reduced in strength.

Mercurials have at all times been relied on by many, and few even now dispense altogether with their use.

Calomel combined with opium has been advised by those who look upon the liver as the source of the disease.

Treatment by opium alone is perhaps the most important and successful of the methods which we possess, of treatment by a single medicine. Like many other great truths in medical treatment and pathology, we are indebted for the introduction of this method to that truly practical physician, Sir D. Corrigan. He recommends the treatment to commence with a grain every two or three hours, to be increased in quantity and frequency until the patient feels relief. Diarrhœa sometimes occurs at the time the patient is using the opium, and purgatives are rarely required.

Diaphoretics have been much used on the principle of quickening elimination by the skin ; Dover's powder and James's powder being the two most frequently selected, in many cases aided in their action by vapour-baths, heated rooms, blankets, hot bottles, and the like. M. Laennec recommended full and repeated doses of tartar emetic.

Bark and quinine have had many advocates, and some of the highest authorities have recommended their use even in the early stages of the disease.

Guaiacum is a medicine which has been used successfully by many.

The apparently magical effects of colchicum in the treatment of gout have led many to expect a like result in Rheumatism. To this extent it has failed ; but I think that in combination with other medicines, which I shall presently name, it is one of the most useful drugs we possess in the treatment of Rheumatism. I cannot agree with Dr. Fuller, that all its good effects are due to vomiting and purging.

Few salts have been more extensively used than the nitrate of potash. All over Europe it has had warm advocates ; some recommending small and repeated doses, and others prescribing half-drachm

doses given every fourth hour. No other remedy for Rheumatism has received so much praise, and yet it must be admitted it is not worthy of such eulogium. In combination it is useful; but used alone, it is too often found to fail.

Lemon-juice was introduced as a remedy for Acute Rheumatism by Dr. Owen Rees, who prescribed it in one- to two-ounce doses. It is thought to owe its curative effects to the excess of oxygen it contains.

The alkaline treatment was first introduced by Dr. Fuller, and this combined with opium forms in my opinion the best mode of treatment.

Most of the Dublin physicians have adopted the alkaline treatment, either alone or combined with opium or quinine.*

Dr. Hayden, writing of the sthenic form of the disease, says: "The alkaline treatment never fails to alleviate articular pain when pushed to the extent of rendering the urine alkaline in reaction. It should always, when not contra-indicated by other considerations, be pressed to this point, short of which it fails to give relief.

* See *Dublin Quarterly Journal*, 1869.

Dr. Lyons* is also a warm advocate of the alkaline and opium treatment.

Dr. Martin and Dr. John Hughes advocate a quino-alkaline treatment combined with opium.

Dr. Russell Renolds recommends perchloride of iron.

Dr. Herbert Davies has lately introduced a treatment of Rheumatism by means of blisters. This method has been favourably spoken of by many medical men. It is especially useful in alleviating the acute arthritic pains.

Quinine has been much used of late years in the treatment of Rheumatic fever. In combination with alkalies it is a most useful remedy. Iodide of potassium is often used in less severe forms of the disease. Locally many remedies have been recommended. The principal are, cotton wool, hot-water stupes, belladonna, atropia, henbane, conium, aconite, nitrate of potash, and leeches.

After a careful study of the treatment of the disease in almost every capital in Europe, I have adopted a manner of treating Acute Rheumatism which I believe will be found by all who try it to possess the great

* For further information on Dr. Lyons' method of treatment, see *Dublin Quarterly Journal of Medical Science*, 1869.

advantages of a speedy cure, and in general of a prevention of heart complications, when such have not occurred before the commencement of the treatment.

The patient is, if possible, clothed in flannel; and where such cannot be done, the sheets of the bed are removed, so that he may lie between the blankets.

Two pills are ordered, containing five grains of calomel and the same quantity of compound rhubarb pill, followed in a couple of hours by a seidlitz powder. A mixture is then prescribed containing two drachms of the nitrate and acetate of potash, and four drachms of the carbonate, with one of tincture of the seeds of colchicum, an ounce of tincture of calumba and infusion of gentian, to eight ounces. Of this, the patient takes one table-spoonful every hour. Every second hour he gets one-fourth of a grain of opium, and at night, if that has not produced a tendency to sleep, I inject subcutaneously, usually near the affected joint, or that most affected, 10 to 16 minims of solution of the muriate of morphia. The patient is allowed to drink, *ad libitum*, a lemonade made with citric acid* and water, but without sugar, which is kept by his side

* The patient is directed not to take this drink immediately after the medicine: the reason is obvious.

tepid. A mash is made of camomile-flowers and poppy-heads, well sprinkled with tincture of opium, which is applied to the affected joints. If the weight of this be much complained of, a piece of lint soaked in a lotion made with spirits of wine, tincture of opium, and water, and covered with oiled silk, is used in place thereof. The diet is confined to arrowroot or rice, with beef tea, chicken or mutton broth. Alkaline and mineral waters are allowed. On the fourth day, when all acute symptoms have begun to subside, I usually order small doses (gr. $\frac{1}{2}$) three times a day of quinine, and increase the quantity of colchicum. Each day after, the quinine is increased. In this way the disease is generally quite gone in from six to ten days; a few cases, however, are cured in much less time.*

* The reader is referred to the *Dublin Quarterly Journal of Medical Science*, 1870. The article, entitled "Treatment of Acute Rheumatism by the Irish Physicians," will amply repay perusal.

CHAPTER V.

TREATMENT OF COMPLICATIONS AND OF CHRONIC RHEUMATISM.

SHOULD the heart, brain, or lungs become affected, our treatment must be active and immediate. If the patient be a strong, plethoric man, much good will result from taking six or eight ounces of blood from the arm—in all cases three to six ounces should be taken locally by means of leeches or cupping. In general, when the lungs or heart are affected, I much prefer the latter. But, occasionally, the pressure of the glasses is so painful, that leeches answer the purpose better. These are, however, always preferable in cases where the head is the part attacked. When much amendment did not result from the first day's treatment, I have often found the patient much improved by a second application of the cupping-glasses or leeches. When the complication is thoracic, I always advise the first local blood-abstraction to be

taken from the chest, and the second from the back. Blisters applied over the cardiac region are of much service in the treatment of peri- and endo-carditis; and if there be much effusion it is well to keep the blister open for some days by means of epispastic paper, or by savine ointment.

If the patient be strong and a complication affecting the thorax is seen in its incipient stage, a mixture of sulphate of magnesia and tartar emetic will often check it immediately. If this does not answer at once, or if the patient be of a more anæmic character, our chief reliance must be put on calomel and opium. This must be administered rapidly, so as quickly to affect the system. Two grains of calomel and one-fourth of a grain of opium given every second hour, and a little mercurial ointment frequently rubbed into the thighs, will quickly have the desired effect.

If the disease now be found not to have abated, or if from other causes it be thought better to stop the mercury, the dose of opium should at once be increased by the frequent subcutaneous injection of a solution of the muriate of morphia. In some cases the full doses of opium given immediately on perceiving signs of cardiac disease will arrest the symptoms.

Absolute rest and tranquillity are essential, and the spirits of the patient should be kept up. Anxiety or fear shown on the face of his friends will too often lessen his chance of recovery.

If, when inflammation of the heart has been subdued, much irritability of the organ remain, the administration of small doses of digitalis will frequently afford much relief.

Treatment of Chronic Rheumatism. — Of all the methods of treatment of Chronic Rheumatism, I place most reliance on promoting the secretion of the skin. For this purpose such exercise as would produce perspiration would undoubtedly be the best, were it not that such patients are unable not only to make such exertion, but are often incapable of walking about, or of taking even moderate exercise.

Here, then, medicines taken in conjunction with Turkish bath are most beneficial. It has often been feared that the continual use of these baths is injurious, but if the temperature be confined to from 120° to 150°, and if copious draughts of water be taken, they cannot be in the least injurious. I was once asked to see a gentleman fifty-five years of age, who had been treated for Chronic Rheumatism in both ankles during seven

years, and who was now rapidly becoming worse. Both knees had become so stiff that it was with the greatest difficulty that he was able to sit. I immediately advised the use of these baths as an adjunct to the medicine I prescribed. Both he and his friends were horrified at the advice, and even the usual medical attendant "did not like to approve of the suggestion." However I prevailed on him to follow my advice. It is now but two years since, and he is able to walk ten or twelve miles a day, which he does regularly whilst engaged in the occupation of farming. At first he perspired very little, but as soon as a free secretion was established from the skin, his recovery was rapid.

The bowels must be moved regularly, once a day, if we would cure Chronic Rheumatism. The kidneys, too, must be carefully regulated, especially when their secretion is scanty.

Guaiacum has, during the last century, been much used in the treatment of Chronic Rheumatism. It is one of the constituents in the famous "Chelsea Pensioner," which consisted of flower of sulphur ʒij, cream of tartar ℥j, powdered rhubarb ʒij, guaiacum ʒj, clarified honey ʒj, one nutmeg finely powdered; two tablespoonfuls to be taken night and morning, and

for the first three nights a large tumblerful of warm rum and-water, or white wine and water.

I have known so many cases relieved by the frequent use of small doses of turpentine, that I invariably recommend a few drops taken each day in water. This acts on the kidneys, as well as operating as a general stimulant. My first trial of this remedy was owing to the relief I saw obtained by a patient who had been under my care during many months for Chronic Rheumatism, and who subsequently abandoned all treatment save taking ten drops of turpentine three times a day in water. In three months she was completely cured of a disease from which she had suffered for many years.

Iodide of Potassium, Colchicum, the bark of Daphne Mezereon with Iodide of Potassium, Sulphur, Sassafras, Taraxacum, Sarsaparilla, Dulcamara, Horseradish, Mustard, Arnica Montana, Turpentine, Balsam of Peru, Juniper, Camphor, Aconitum Napellus, Actea Racemosa, Ammonii Iodidum, Ammoniæ Phosphas, Antimonii Oxyiodidum, Armoracea, Arsenic, Atherospernum Moschatum, Bucco, Berberis Lycium, Canella, Cannabis Indica, Chimaphila Umbellata, Codeia, Conium, Mezereon, Fraxinus, Guaco, Hermodactylus,

Lactucarium, Linum Catharticum, Nitric Acid, Propylamine, Cocculus Cordifolius, Oleum Morrhuæ, Sulphur, Stramonium, Veratrum Viride, Veratrum Album, Potassæ Tartras, Sanguinaria, Podophyllum, Auri Terchloridum, Tartar Emetic, and many other medicines, have been used with benefit. The alkaline and sulphur mineral springs are often most useful.

From local application we may often experience much relief. Blisters or leeches are serviceable in the earlier stages. The most useful, however, is heat. That produced by an ordinary hot smoothing-iron, the part being covered with a piece of flannel, or by Corrigan's button heated to a white heat, in hot water, is often most efficacious. Hot water and turpentine stupes are also serviceable. Iodine and iodide of potassium as a liniment are useful. The same is true of Aconite, Belladonna, Spirits, Opium, Iodine, Ol. Cajuputi, Ol. Crotonis, Ol. Myristicæ, Liquor Potassæ, Nitrate of Potash, Oil of Turpentine, Ox-gall, Tabacum, Emp. Picis, Lin. Saponis, Petroleum, Acupuncture, Stramonium, and many other remedies, which have been recommended by various authors.

CHAPTER VI.

*CHRONIC RHEUMATIC ARTHRITIS.**

CHRONIC RHEUMATIC ARTHRITIS is a disease which, while producing but little constitutional disturbance, is characterized by most severe local destruction. In some respects, its phenomena and symptoms closely resemble gout; but in others the disease bears close analogy to Rheumatism. Most authors describe this affection as acute or chronic, but I do not admit the existence of the former variety.

Chronic Rheumatic Arthritis consists of a succession of attacks of inflammation affecting one or more joints, leading in the course of time to destruction and distortion of the articulation. It sometimes commences with considerable fever. It then resembles a

* Syn. Rheumatic Gout (Fuller); Chronic Rheumatic Arthritis (Adams); Rheumatoid Arthritis (Garrod); Capsular Rheumatism (Macleod); Chronic Rheumatism of the Joints (Todd); Nodosity of the Joints (Haygarth & Heberden); Usure des Cartilages Articulaires, Rhumatisme Noueux (French writers).

mild attack of Rheumatic fever. At other times occurring without any premonitory signs, it seizes on persons apparently in perfect health. More usually, however, before the disease occurs, a patient is the subject of dyspepsia, irregular bowels, palpitations, and not unfrequently is jaundiced. The first local symptom usually noticed is stiffening and pain. This is at first only perceived when the joint is moved, but in a short time it becomes persistent even when the part is at rest. Swelling soon supervenes. This differs from that of Rheumatism in being situated entirely within the joint, the neighbouring textures not being engaged. There is now also some tenderness on pressure, and the temperature of the part is raised.

Rest and treatment are usually followed in the course of from eight to ten days with a gradual subsidence of the tenderness and pain. The swelling, too, which considerably abates, may even disappear altogether. After a variable time, the disease recurs with the same phenomena. The pain, however, is much more severe; being of a gnawing, sickening, or tearing character. The swelling also is greater, and seldom again entirely subsides; so that when the symptoms once more abate, the part is left swollen and

stiff. With a still shorter interval the inflammation is again set up, and runs a still more protracted course; or it may even now remain until the joint or joints affected have been totally destroyed. During all this time there has been little or no constitutional disturbance. At the incipient attacks but one articulation alone is affected; but if the disease has been allowed to run an unchecked course, it extends to almost every joint in the body. At first there is swelling, pain, and tenderness, but little organic change. Soon, however, the affected textures become thickened, and altered. The nourishment of the joint is perverted. One portion becomes enlarged and hypertrophied, while another is broken up and absorbed. The ligaments, synovial membrane, and even the ends of bones, by the increased size and thickened condition, produce much of the deformity characteristic of Chronic Rheumatic Arthritis. The cartilages frequently become broken up and absorbed, and the joint itself is distorted and enlarged. There is often a great deficiency of fat in persons affected with this disease. The smaller joints are those most frequently affected. Chronic Rheumatic Arthritis is probably more common with females, and with those who have been much debilitated by

rapid child-bearing or lengthened lactation. Occasionally deposits of salts of lime, and even foreign bodies, have been found within the joints.

Pathology.—The pathology of this disease is very obscure. By some it has been looked on as a combination of Rheumatism and Gout. By others it has been considered as a mere variety of Chronic Rheumatism. Analysis of the blood has revealed but little, and this little has been of a negative character. It has been thus ascertained that there is no abnormal accumulation of uric acid in the blood of those suffering from Chronic Rheumatic Arthritis. Post-mortem examinations have also proved that no deposits of urate of soda occur in this destructive malady.

This is, however, the result we would expect. Patients who are affected with this disease are usually much debilitated, and are not the class of patients in whose blood much uric acid appears. If such a materies morbi existed, I have no doubt but that regular gouty inflammation would be the result, and not Rheumatic Arthritis.

I look on this latter disease as due, in the first instance, to an undue accumulation in the blood of salts of lime, while this vital fluid is in other respects much

impoverished. With this condition there also often exists a certain amount of nervous depression, but there is always a languid circulation. Under these circumstances the balance between secretion and absorption of synovial fluid is lost, the joints become distended, the union of certain salts causes the fluid to become irritating, and inflammation results. The tissues about, especially the bones, being abundantly supplied with salts of lime, become enlarged, thickened, and stiff, and the cartilages, deprived of their proper nourishment, and constantly irritated by the chalky fluid, gradually disappear. The absorbents, too, have become stimulated by the want in the blood of certain ingredients, and these readily absorb the broken-down cartilages.

Causes.—The causes are, in my mind, the existence in the blood of abnormal quantities of salts of lime, or the essentials for making such, together with a certain amount of general debility. Hence, everything which can arrest the excretion from the different organs of elimination, or tend to impoverish the blood, will act as causes of Rheumatic Arthritis. Thus we see that the disease is not unfrequent in those who have lost much blood; or who have been reduced by lengthened

lactation or such-like causes. Diseases of the skin or kidneys may also tend to its production.

Diagnosis.—It is of importance to distinguish Chronic Rheumatic Arthritis from both Rheumatism and Gout. From the former it may be distinguished by the absence of much constitutional disturbance, the long duration of the disease, the subacute commencement, and the structural changes. From the latter by the absence of uric acid both in the deposit and in the blood; by the prolonged and subacute variety of the earlier exacerbations, and by the class of patients it attacks.

Prognosis.—I believe that Chronic Rheumatic Arthritis is a curable affection, if treated before the joints are organically impaired.

Treatment.—The treatment of Chronic Rheumatic Arthritis must be conducted on the principle of improving the condition of the blood. Therefore everything which tends to lower the system must be carefully avoided. The first attention must be devoted to the stomach. This must be improved by the use of antacids, bitter tonics, nitro-muriatic acid and pepsine. Next, the bowels, skin, and kidneys should be regulated.

Tonics, such as iron, quinine, and the like, should in

most cases be used. Turpentine in small doses is often of much service; cod-liver oil and iodide of iron are essential in the treatment of this affection. Guaiacum and arsenic are also most useful. But our chief efforts must be to supply the blood with those ingredients wherein it is wanting, by regulation of the diet. Strong beef tea, and as much animal food as can be digested, ought to be used. Milk, arrowroot, and the like are most useful; tea, coffee, and chocolate are also beneficial. Vegetables are all serviceable if they can be digested. Stimulants in small quantities and frequently, are also of much service. Beer, ale, and porter, so injurious in Gout and Rheumatism, are particularly useful in this disease. Half a glass of good bitter beer taken half an hour before dinner-time, will be found to improve the digestion. Change of air, especially to the sea, is of much use. A few months in some bracing place, as Ramsgate or Margate, will often improve a patient's condition so much as to enable him to overcome a tendency to this terrible malady.

In the early stages much good often results from blisters, blistering collodion, and liniments. Later, plasters to support the weakened parts, will give much relief. Baths and sea-bathing are most useful. Fric-

tion is also of the greatest service. Rest of the affected part, and open-air carriage exercise, are most useful, and should be strictly enjoined. Fruit, especially oranges, lemons, and grapes, are very beneficial. The medicine should consist of mineral acids, cod-liver oil, and vegetable tonics. Aconite, arsenic, lemon-juice, colchicum, corrosive sublimate baths, iodine, and iodide of potassium have been strongly recommended by several authors. Many have likewise derived much benefit from some of the medicine mentioned in the chapter on Chronic Rheumatism.

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